



United States  
Department of  
Agriculture



Natural  
Resources  
Conservation  
Service

In cooperation with  
Minnesota Agricultural  
Experiment Station and  
Board of Water and Soil  
Resources

# Soil Survey of Hennepin County, Minnesota



# NRCS Accessibility Statement

---

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at [helpdesk@helpdesk.itc.nrcs.usda.gov](mailto:helpdesk@helpdesk.itc.nrcs.usda.gov). For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at <http://offices.sc.egov.usda.gov/locator/app>.



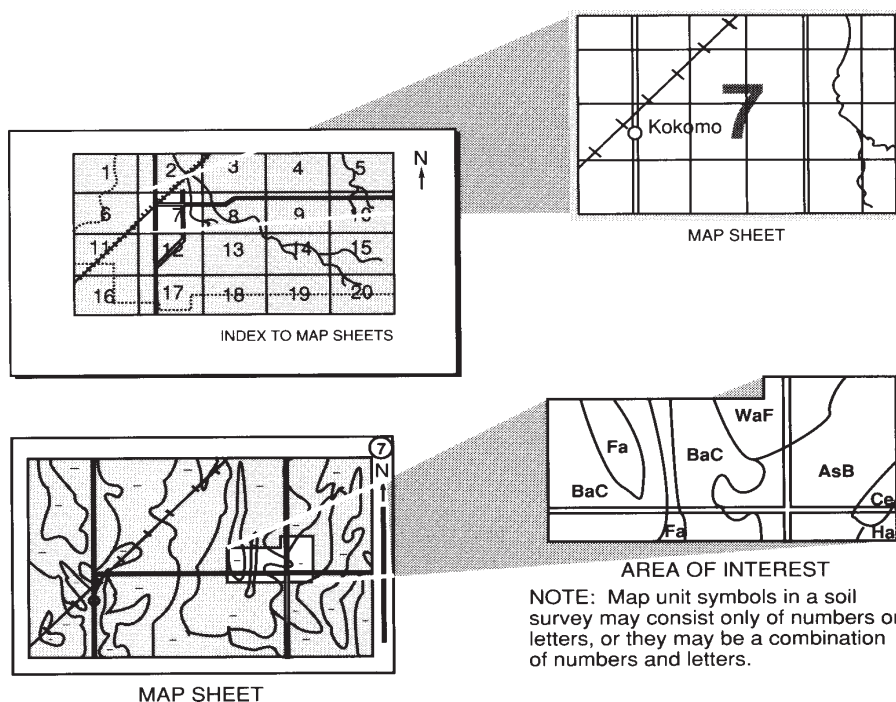
# How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet, and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described. The map unit symbols and names also appear as bookmarks, which link directly to the appropriate page in the publication.

The **Contents** shows which table has data on a specific land use for each soil map unit. Also see the **Contents** for other sections of this publication that may address your specific needs.



---

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2000. Soil names and descriptions were approved in 2001. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2001. This survey was made cooperatively by the Natural Resources Conservation Service, the Minnesota Agricultural Experiment Station, and the Board of Water and Soil Resources. It is part of the technical assistance furnished to the Hennepin Conservation District, which also provided funding for part of the survey.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

The United States Department of Agriculture (USDA) prohibits discrimination in all of its programs on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice or TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue SW, Washington, DC 20250-9410, or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

**Cover: A wetland and prairie restoration project in Hennepin County.**

*Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service homepage on the World Wide Web. The address is <http://www.nrcs.usda.gov>.*

# Contents

---

<b>How To Use This Soil Survey</b> .....	3
<b>Foreword</b> .....	11
How This Survey Was Made .....	13
<b>Formation and Classification of the Soils</b> .....	15
Formation of the Soils .....	15
Climate .....	15
Living Organisms .....	15
Topography .....	16
Parent Material .....	16
Time .....	18
Classification of the Soils .....	18
Table 1.—Classification of the Soils .....	19
<b>Soil Map Unit Descriptions</b> .....	21
D1B—Anoka and Zimmerman soils, terrace, 2 to 6 percent slopes .....	22
D1C—Anoka and Zimmerman soils, terrace, 6 to 12 percent slopes .....	23
D2A—Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded .....	23
D3A—Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded .....	24
D4A—Dorset sandy loam, 0 to 2 percent slopes .....	25
D4B—Dorset sandy loam, 2 to 6 percent slopes .....	26
D4C—Dorset sandy loam, 6 to 12 percent slopes .....	27
D5B—Dorset-Two Inlets complex, 2 to 6 percent slopes .....	27
D5C—Dorset-Two Inlets complex, 6 to 12 percent slopes .....	28
D5D—Dorset-Two Inlets complex, 12 to 18 percent slopes .....	29
D6A—Verndale sandy loam, acid substratum, 0 to 2 percent slopes .....	30
D6B—Verndale sandy loam, acid substratum, 2 to 6 percent slopes .....	31
D6C—Verndale sandy loam, acid substratum, 6 to 12 percent slopes .....	32
D7A—Hubbard loamy sand, 0 to 2 percent slopes .....	33
D7B—Hubbard loamy sand, 2 to 6 percent slopes .....	33
D7C—Hubbard loamy sand, 6 to 12 percent slopes .....	34
D8B—Sandberg loamy coarse sand, 2 to 6 percent slopes .....	34
D8C—Sandberg loamy coarse sand, 6 to 12 percent slopes .....	35
D8D—Sandberg loamy coarse sand, 12 to 18 percent slopes .....	36
D8E—Sandberg loamy coarse sand, 18 to 35 percent slopes .....	36
D10A—Forada sandy loam, 0 to 2 percent slopes .....	37
D11A—Lindaas silt loam, 0 to 2 percent slopes .....	38
D12B—Bygland silt loam, MAP >25, 2 to 6 percent slopes .....	38
D12C2—Bygland silt loam, MAP >25, 6 to 12 percent slopes, eroded .....	39
D13A—Langola loamy fine sand, terrace, 0 to 2 percent slopes .....	41
D13B—Langola loamy fine sand, terrace, 2 to 6 percent slopes .....	41
D15A—Seelyeville-Markey complex, depressional, 0 to 1 percent slopes .....	42
D16A—Seelyeville and Markey soils, ponded, 0 to 1 percent slopes .....	43
D17A—Duelm loamy sand, 0 to 2 percent slopes .....	44
D18B—Braham loamy fine sand, terrace, 2 to 5 percent slopes .....	44
D19A—Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded .....	45
D20A—Isan sandy loam, 0 to 2 percent slopes .....	46
D21A—Isan sandy loam, depressional, 0 to 1 percent slopes .....	47
D23A—Southhaven loam, 0 to 2 percent slopes .....	47
D24A—Sedgeville loam, 0 to 2 percent slopes, occasionally flooded .....	48
D25A—Soderville loamy fine sand, terrace, 0 to 3 percent slopes .....	48
D26A—Foldahl loamy sand, MAP >25, 0 to 3 percent slopes .....	49
D27A—Dorset sandy loam, loamy substratum, 0 to 2 percent slopes .....	50

D28B—Urban land-Bygland, MAP >25, complex, 1 to 6 percent slopes .....	51	L4D—Crowfork loamy sand, 12 to 18 percent slopes .....	67
D29B—Urban land-Hubbard, bedrock substratum, complex, 0 to 8 percent slopes .....	51	L6A—Biscay loam, 0 to 2 percent slopes .....	68
D30A—Seelyeville and Markey soils, depressional, 0 to 1 percent slopes .....	52	L7A—Biscay loam, depressional, 0 to 1 percent slopes .....	69
D31A—Urban land-Duelm complex, 0 to 2 percent slopes .....	53	L8A—Darfur sandy loam, 0 to 2 percent slopes .....	70
D33B—Urban land-Dorset complex, 0 to 8 percent slopes .....	54	L9A—Minnetonka silty clay loam, 0 to 2 percent slopes .....	70
D33C—Urban land-Dorset complex, 8 to 18 percent slopes .....	55	L10B—Kasota silty clay loam, 1 to 6 percent slopes .....	71
D34B—Urban land-Hubbard complex, 0 to 8 percent slopes .....	56	L11B—Grays very fine sandy loam, 2 to 8 percent slopes .....	72
D35A—Elkriver-Fordum complex, 0 to 2 percent slopes, occasionally flooded .....	56	L12A—Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes, frequently flooded .....	72
D37F—Dorset, bedrock substratum-Rock outcrop complex, 25 to 65 percent slopes .....	57	L13A—Klossner muck, depressional, 0 to 1 percent slopes .....	73
D40A—Kratka loamy fine sand, thick solum, 0 to 2 percent slopes .....	58	L14A—Houghton muck, depressional, 0 to 1 percent slopes .....	74
D41C—Urban land-Waukon complex, 6 to 18 percent slopes .....	59	L15A—Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes .....	75
D43A—Gonvick loam, terrace, 1 to 3 percent slopes .....	59	L16A—Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes .....	76
GP—Pits, gravel-Udipsamments complex .....	60	L17B—Angus-Malardi complex, 2 to 6 percent slopes .....	77
L2B—Malardi-Hawick complex, 1 to 6 percent slopes .....	60	L18A—Shields silty clay loam, 0 to 3 percent slopes .....	78
L2C—Malardi-Hawick complex, 6 to 12 percent slopes .....	61	L19B—Moon loamy fine sand, 2 to 5 percent slopes .....	79
L2D—Malardi-Hawick complex, 12 to 18 percent slopes .....	62	L20B—Fedji loamy fine sand, silty substratum, 2 to 8 percent slopes .....	79
L2E—Malardi-Hawick complex, 18 to 35 percent slopes .....	63	L21A—Canisteo loam, 0 to 2 percent slopes .....	80
L3A—Rasset sandy loam, 0 to 2 percent slopes .....	64	L22C2—Lester loam, morainic, 6 to 12 percent slopes, eroded .....	81
L3B—Rasset sandy loam, 2 to 6 percent slopes .....	65	L22D2—Lester loam, morainic, 12 to 18 percent slopes, eroded .....	82
L3C—Rasset sandy loam, 6 to 12 percent slopes .....	65	L22E—Lester loam, morainic, 18 to 25 percent slopes .....	83
L4B—Crowfork loamy sand, 1 to 6 percent slopes .....	66	L22F—Lester loam, morainic, 25 to 35 percent slopes .....	84
L4C—Crowfork loamy sand, 6 to 12 percent slopes .....	67	L23A—Cordova loam, 0 to 2 percent slopes .....	85
		L24A—Glencoe loam, depressional, 0 to 1 percent slopes .....	85
		L25A—Le Sueur loam, 1 to 3 percent slopes .....	86

L26A—Shorewood silty clay loam, 0 to 3 percent slopes .....	87	L42E—Kingsley-Gotham complex, 18 to 25 percent slopes .....	108
L26B—Shorewood silty clay loam, 3 to 6 percent slopes .....	88	L42F—Kingsley-Gotham complex, 25 to 35 percent slopes .....	109
L26C2—Shorewood silty clay loam, 6 to 12 percent slopes, eroded .....	88	L43A—Brouillett loam, 0 to 2 percent slopes, occasionally flooded .....	110
L27A—Suckercreek loam, 0 to 2 percent slopes, frequently flooded .....	89	L44A—Nessel loam, 1 to 3 percent slopes .....	111
L28A—Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded .....	90	L45A—Dundas-Cordova complex, 0 to 3 percent slopes .....	112
L29A—Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded .....	91	L46A—Tomall loam, 0 to 2 percent slopes .....	113
L30A—Medo soils, depressional, 0 to 1 percent slopes .....	91	L47A—Eden Prairie sandy loam, 0 to 2 percent slopes .....	113
L31A—Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes .....	92	L47B—Eden Prairie sandy loam, 2 to 6 percent slopes .....	114
L32D—Hawick loamy sand, 12 to 18 percent slopes .....	94	L47C—Eden Prairie sandy loam, 6 to 12 percent slopes .....	115
L32F—Hawick loamy sand, 18 to 40 percent slopes .....	94	L49A—Klossner soils, depressional, 0 to 1 percent slopes .....	116
L35A—Lerdal loam, 1 to 3 percent slopes .....	95	L50A—Houghton and Muskego soils, depressional, 0 to 1 percent slopes .....	117
L36A—Hamel, overwash-Hamel complex, 1 to 4 percent slopes .....	96	L52C—Urban land-Lester complex, 2 to 18 percent slopes .....	118
L37B—Angus loam, morainic, 2 to 5 percent slopes .....	97	L52E—Urban land-Lester complex, 18 to 35 percent slopes .....	119
L38A—Rushriver very fine sandy loam, 0 to 2 percent slopes, occasionally flooded .....	98	L53B—Urban land-Moon complex, 2 to 8 percent slopes .....	119
L39A—Minneiska fine sandy loam, 0 to 2 percent slopes, occasionally flooded .....	99	L54A—Urban land-Dundas complex, 0 to 3 percent slopes .....	120
L40B—Angus-Kilkenny complex, 2 to 6 percent slopes .....	100	L55B—Urban land-Malardi complex, 0 to 8 percent slopes .....	121
L41C2—Lester-Kilkenny complex, 6 to 12 percent slopes, eroded .....	101	L55C—Urban land-Malardi complex, 8 to 18 percent slopes .....	121
L41D2—Lester-Kilkenny complex, 12 to 18 percent slopes, eroded .....	102	L56A—Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded .....	122
L41E—Lester-Kilkenny complex, 18 to 25 percent slopes .....	104	L58B—Koronis-Kingsley complex, 2 to 6 percent slopes .....	123
L41F—Lester-Kilkenny complex, 25 to 35 percent slopes .....	105	L58C2—Koronis-Kingsley complex, 6 to 12 percent slopes, eroded .....	124
L42B—Kingsley-Gotham complex, 2 to 6 percent slopes .....	106	L58D2—Koronis-Kingsley complex, 12 to 18 percent slopes, eroded .....	125
L42C—Kingsley-Gotham complex, 6 to 12 percent slopes .....	107	L58E—Koronis-Kingsley complex, 18 to 25 percent slopes .....	126
L42D—Kingsley-Gotham complex, 12 to 18 percent slopes .....	108	L59A—Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes .....	127



L60B—Angus-Moon complex, 2 to 5 percent slopes .....	128	U4A—Urban land-Udipsamments (cut and fill land) complex, 0 to 2 percent slopes .....	148
L61C2—Lester-Metea complex, 6 to 12 percent slopes, eroded .....	129	U5A—Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes, rarely flooded .....	148
L61D2—Lester-Metea complex, 12 to 18 percent slopes, eroded .....	130	U6B—Urban land-Udorthents (cut and fill land) complex, 0 to 6 percent slopes .....	148
L61E—Lester-Metea complex, 18 to 25 percent slopes .....	131	W—Water .....	149
L62B—Koronis-Kingsley-Malardi complex, 2 to 6 percent slopes .....	132	Table 2.—Acreage and Proportionate Extent of the Soils .....	149
L62C2—Koronis-Kingsley-Malardi complex, 6 to 12 percent slopes, eroded .....	133	<b>Use and Management of the Soils</b> .....	153
L62D2—Koronis-Kingsley-Malardi complex, 12 to 18 percent slopes, eroded .....	134	Interpretive Ratings .....	153
L62E—Koronis-Kingsley-Malardi complex, 18 to 35 percent slopes .....	135	Rating Class Terms .....	153
L64A—Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes .....	136	Numerical Ratings .....	153
L70C2—Lester-Malardi complex, 6 to 12 percent slopes, eroded .....	137	Crops and Pasture .....	153
L70D2—Lester-Malardi complex, 12 to 18 percent slopes, eroded .....	138	Climate .....	154
L70E—Lester-Malardi complex, 18 to 35 percent slopes .....	140	Cropland Management Considerations .....	154
L71C—Metea loamy fine sand, 6 to 12 percent slopes .....	141	Crop Yield Estimates .....	155
L72A—Lundlake loam, depressional, 0 to 1 percent slopes .....	142	Pasture and Hayland Interpretations .....	156
L110E—Lester-Ridgeton complex, 18 to 25 percent slopes .....	142	Land Capability Classification .....	156
L110F—Lester-Ridgeton complex, 25 to 45 percent slopes .....	144	Prime Farmland .....	157
L131A—Litchfield loamy fine sand, 0 to 3 percent slopes .....	145	Windbreaks and Environmental Plantings .....	157
L132A—Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes .....	146	Windbreak Suitability Groups .....	158
M-W—Water, miscellaneous .....	147	Recreation .....	158
U1A—Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes .....	147	Wildlife Habitat .....	160
U2A—Udorthents, wet substratum, 0 to 2 percent slopes .....	147	Engineering .....	161
U3B—Udorthents (cut and fill land), 0 to 6 percent slopes .....	147	Building Site Development .....	162
		Construction Materials .....	163
		Water Management .....	164
		Table 3.—Temperature and Precipitation .....	165
		Table 4.—Freeze Dates in Spring and Fall .....	166
		Table 5.—Growing Season .....	166
		Table 6.—Cropland Management Considerations .....	167
		Table 7a.—Land Capability and Yields per Acre of Crops .....	213
		Table 7b.—Land Capability and Yields per Acre of Crops .....	228
		Table 8.—Forage Suitability Groups .....	243
		Table 9.—Prime Farmland .....	263
		Table 10.—Windbreaks and Environmental Plantings .....	264
		Table 11.—Windbreak Suitability Groups .....	363
		Table 12a.—Recreational Development .....	383

---

Table 12b.—Recreational Development .....	421	Table 17.—Engineering Index Properties .....	698
Table 13.—Wildlife Habitat .....	454	Table 18.—Physical Properties of the Soils .....	807
Table 14a.—Building Site Development .....	479	Table 19.—Chemical Properties of the	
Table 14b.—Building Site Development .....	518	Soils .....	863
Table 15a.—Construction Materials .....	564	Table 20.—Soil Moisture Status by Depth .....	903
Table 15b.—Construction Materials .....	601	Table 21.—Flooding Frequency and	
Table 16.—Water Management .....	652	Duration .....	958
<b>Soil Properties</b> .....	693	Table 22.—Ponding Frequency, Duration,	
Engineering Index Properties .....	693	and Depth .....	990
Physical and Chemical Properties .....	694	Table 23.—Soil Features .....	1024
Water Features .....	695	<b>References</b> .....	1045
Soil Features .....	697	<b>Glossary</b> .....	1047

Issued 2004

## Where To Get Updated Information

---

The soil properties and interpretations included in this survey were current as of August 2003. The most current information is available through the NRCS Soil Data Mart Website at <http://soildatamart.nrcs.usda.gov/>

Additional information is available from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide at Brooklyn Center, Minnesota, or online at [www.nrcs.usda.gov/technical/efotg/](http://www.nrcs.usda.gov/technical/efotg/). The data in the Field Office Technical Guide are updated periodically.

Additional information about soils and about NRCS is available through the Minnesota NRCS Web page at [www.mn.nrcs.usda.gov](http://www.mn.nrcs.usda.gov).

For further information, please contact:

USDA, Natural Resources Conservation Service  
MLRA Soil Survey Office  
Room 650, Earle Brown Tower  
6120 Earle Brown Drive  
Brooklyn Center, MN 55430-2195  
Phone: 763-566-2941

# Foreword

---

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

William Hunt  
State Conservationist  
Natural Resources Conservation Service

**Location of Hennepin County and MLRAs 91 and 103 in Region 10.**



# Soil Survey of Hennepin County, Minnesota

---

By Kim Steffen, Natural Resources Conservation Service

Fieldwork (2000) by Kim Steffen, Peter Hartman, and Thomas Jackson, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,  
in cooperation with the Minnesota Agricultural Experiment Station and Board of Water  
and Soil Resources

## How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Region 10 and in Major Land Resource Areas 91 and 103. Region 10 is an administrative division of the Natural Resources Conservation Service. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation and topography, climate, water, soils, and vegetation (USDA, 1981). Hennepin County is a subset of MLRAs 91 and 103. Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout the MLRA. In some places in this publication, a soil may be referred to that was not mapped in the Hennepin County subset but that is representative of the MLRA.

The information includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landscape or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they observed. The maximum depth of observation was about 80 inches (6.7 feet). Soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil reaction, and other features that enable them to identify soils. After describing the soils in the survey area and

determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field

experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a zone in which the soil moisture status is wet within certain depths in most years, but they cannot predict that this zone will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

# Formation and Classification of the Soils

---

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

## Formation of the Soils

Soil is produced by the action of soil-forming processes on materials deposited or accumulated by geologic forces. The characteristics of the soil in a given area are determined by (1) the physical and mineralogical composition of the parent material; (2) the climate under which the soil material has accumulated and existed since accumulation; (3) the living organisms on and in the soil, mainly vegetation; (4) the relief, or lay of the land; and (5) the length of time the forces of soil formation have acted on the soil material. The relative effect of each of these factors is reflected in the soil profile.

During the transformation of the parent material into soil, minerals are weathered and organic matter accumulates. Material in suspension or in solution moves downward through the soil, and new chemical compounds and new minerals form.

In Hennepin County, differences in parent material and vegetation account for most of the differences among the soils. Climate and relief are fairly uniform throughout the county, and all of the soils have been developing for about the same length of time.

All five factors of soil formation are interrelated. When one factor changes, changes in the other four factors result. The individual factors of soil formation are described separately in the paragraphs that follow.

## Climate

Given adequate time, climate will eventually dominate the soil-forming process. Temperature and precipitation are the most commonly measured climatic factors that influence soil formation. Climate influences the chemical and physical reactions that are required for the development of the soil profile. Climate also influences the natural vegetation that grows in a particular region. Hennepin County has a subhumid, continental climate that favored the growth of both grassland and forest vegetation.

The temperature varies widely from summer to winter in Hennepin County. Generally, the soils are frozen 4 or 5 months each year. Temperature influences the physical, chemical, and biological activities that affect mineral weathering and microbial activities in soils. The rate of chemical and biological processes responsible for soil formation decreases during the winter because mineral weathering or microbial activity does not occur when the soils are frozen. Alternate freezing and thawing cycles in the fall and spring create expansion and contraction pressures that rupture mineral material and increase the surface area available for mineral weathering. These cycles also play a role in the development of soil structure. Temperature influences the accumulation and decomposition of organic matter in soils. As the temperature rises, the rate of organic decomposition and nutrient cycling increases. Temperature controls effective rainfall through its influence on potential evapotranspiration, which increases with increasing mean annual temperature.

Precipitation is essential to soil formation. Water is necessary for plant and animal growth and for the chemical reactions that involve mineral weathering. Water transports colloidal material and dissolved solids from one part of the profile to another. It transports the material downward or completely out of the profile through leaching, or it transports soluble salts upward through capillary action.

## Living Organisms

The soils in the survey area formed under prairie grasses, forbs, and forest vegetation. The largest area of grassland that existed in the survey area is the outwash plain along the Mississippi River, but even here, oaks have invaded to some extent. Hubbard and Dorset soils formed in this area. These soils are classified as Mollisols. Melanization, the darkening of soil by the addition of organic matter, is the dominant soil-forming process in Mollisols. Most of the growth in grassland plant communities occurs in the roots rather than in the upper parts of the plant. Therefore, most of the organic matter added to grassland soils is incorporated directly into the soil upon the dieback of

the roots, thus giving Mollisols a thick, dark surface soil horizon.

Soils that form under forest vegetation typically have a surface soil horizon that is thinner and lighter in color than that of the soils that formed under grasses because the organic matter biomass accumulation under forests is less than under grasses. Forested soils are also characterized by a loss of oxides and clay in some horizons and an accumulation in other horizons. The soil horizon in which clays and oxides accumulate is referred to as an argillic horizon. Many of the soils in Hennepin County, such as Lester and Angus soils, exhibit characteristics typical of soils that formed under both grassland and forest vegetation. The survey area is in a transition zone.

Micro-organisms are important in sizing and reworking organic and mineral material in the soil profile. This mixing increases the surface area available for weathering and decomposition of minerals and organic material. Insects, earthworms, and rodents mix the soil and form channels that influence the movement of air and water through the soil.

Humans can affect soil formation by altering the soil-forming processes. They change the kind of vegetation in an area and alter the rates of runoff and water infiltration.

## Topography

Relief is an important factor in soil formation because it affects drainage, aeration, and erosion. Differences in relief can account for the development of different soils in similar parent material. Because relief influences runoff and drainage, it can affect the types of vegetation present and the chemical changes on and in the soil. Soil profile development occurs most rapidly on well drained, gentle slopes. Soil development is very slow on steep slopes where runoff is rapid, infiltration is slow, and geologic erosion removes the surface soil about as quickly as it forms. Excessive runoff reduces the amount of water that is available to leach the soil and for use by plants, and it can increase the hazard of erosion.

Topographic position on the landscape affects the drainage class of the soil.

Differences in topography also influence the development of different soils that formed in the same kind of parent material. For example, Lester, Le Sueur, Cordova, and Glencoe soils all formed in calcareous, gray till. The drainage class of each soil is predictable based on the particular landscape position of each. Lester soils formed mainly on sloping side slopes and are well drained; Le Sueur soils formed in nearly level

and slightly sloping areas and are somewhat poorly drained; the poorly drained Cordova soils formed in level areas where runoff was very slow; and the very poorly drained Glencoe soils are in depressions that are ponded with water.

## Parent Material

Hennepin County was covered by drift of the Grantsburg sublobe. The drift is composed of relatively recent material derived through the reworking of older deposits. The thickness of the drift ranges from a few feet in the southeast corner of the county near Fort Snelling to about 450 feet in preglacial valleys. In most places the drift is 100 to 200 feet deep. The most extensive sources of parent material are glacial till and glacial outwash. Smaller areas consist of alluvium, glaciolacustrine deposits, and organic material.

The differences among these parent materials account for many of the differences in the soils. Parent material is a mixture of clay, unweathered minerals, and rock fragments that vary widely in their composition and density.

*Glacial till*—Glacial till refers to drift that is not stratified. A number of continental glaciers are believed to have covered all of Hennepin County. The material deposited by these glaciers lies deeply buried under the more recent Wisconsin glacial deposits. The uppermost deposits were laid down during the late stages of what geologists refer to as the Wisconsin Glaciation. This glacial age deposited different types of glacial material and provided the parent material in which the soils in Hennepin County formed.

The oldest drift was deposited by the ice of the Superior lobe, which flowed into the area from the north and covered the entire county. This glacier deposited till that is reddish brown, generally sandy in texture, and noncalcareous. This material is commonly known as red till. Pebbles of basalt, felsite, and red sandstone are common. Kingsley soils formed in red till.

Somewhat later, the Grantsburg sublobe, a protrusion of the Des Moines lobe, advanced into the area. This lobe moved in a northeasterly direction across the county and followed the lowland across the east-central part of the state. The till deposited by the Des Moines lobe is commonly referred to as gray till. The gray till covers nearly all of the red till, except in small areas in the eastern part of the county. In some places the Grantsburg sublobe picked up till previously deposited by the Superior lobe; consequently, complex mixtures of reddish brown and light olive brown drift were deposited in some areas.

The till of this last glaciation is grayish brown or light

olive brown in areas where drainage is good and the material had access to air. In poorly drained areas, the till is olive gray. The gray till is derived mostly from limestone and shale particles, but it contains enough granite and sandstone to provide an abundance of minerals. This material is calcareous and contains many limestone pebbles. The content of carbonates is high (15 to 25 percent), and the material effervesces strongly with hydrochloric acid. In most places this till is friable loam that contains 18 to 24 percent clay, 30 to 40 percent silt, and 35 to 50 percent sand. Lester and Nessel soils formed in gray till.

In the western part of Medina, the eastern two-thirds of Independence, the eastern half of Minnetrista, and the western part of Orono and in small scattered tracts elsewhere, the loam till is mantled with a veneer of clayey till, 3 to 20 feet thick. The texture is typically clay loam. This material appears to be denser than the loam till, generally contains more shale, and has a greater concentration of lime carbonates along fracture planes. Kilkenny soils formed in this clayey till.

*Glaciolacustrine deposits*—During the retreat of the Grantsburg sublobe, it appears that ice stagnated in many parts of the county. Lakes probably formed in depressions in the ice in the late stages of melting, and the bottoms of the lakes or ponds rested on gray till and the walls formed by the melting ice. Lacustrine sediments, 2 to more than 10 feet in thickness, were deposited in these glacial lakes. These sediments occupy irregular tracts ranging from 2 acres to about 160 acres in size, mostly in the central and southwestern parts of the county. The sediments have a rather abrupt margin, and the depth of sediment varies greatly within short distances. Most of the sediments are silty clay in the upper 2 to 5 feet and silt loam below that depth. Bygland and Minnetonka are examples of soils that formed in lacustrine sediments.

*Glacial outwash or collapsed alluvium*—As the stagnant ice melted, alluvium consisting of sand and gravel was deposited in places on the lower lying stagnant ice. When the ice below finally melted, an undulating to hilly landscape resulted.

The largest area of glacial outwash or collapsed alluvium occurs in the southern part of the county near the Minnesota River. The landscape in this area is undulating to hilly. The parent material includes stratified sand and gravel with a 1/2-foot to 5-foot veneer of loamy material. A number of smaller areas of glacial outwash or collapsed alluvium also occur in the county. A gently undulating to rolling area occurs in a belt 1/4 mile to 2 miles wide between Delano and Dayton. The parent material in this area consists

mainly of sand and of sand with a thin mantle of loamy alluvium. Two small areas of outwash or collapsed alluvium that consists mainly of stratified sand and gravel with a thin mantle of loamy alluvium are in the east-central part of the county. One area is just north of Gleason Lake and extends in a belt 1/4 mile to 1 1/2 miles wide to the western shore of Medicine Lake. The other area occurs just off the eastern side of Lake Minnetonka.

In places in the eastern part of the county, the coarse alluvium probably filled crevasses in the stagnant ice. When the ice field melted, the coarse alluvium remained as an elevated ridge. Crevasse ridges range from 50 to 125 feet in height, from 200 to 500 feet in width, and from 500 feet to 1 1/2 miles in length (Lueth, 1974).

Finally, the Grantsburg sublobe retreated westward, and as a result the Mississippi Valley was uncovered. Meltwater from the wasting Des Moines lobe filled the valley in Hennepin County with coarse alluvium. This coarse alluvium, referred to by some as stream outwash, occupies an extensive area in the northeastern part of the county. This material is mainly sand, but small areas of stratified calcareous sand and gravel are near Osseo. Hubbard soils formed in sandy alluvium. Dorset soils formed in a thin, loamy veneer over stratified sand and gravel. The gravel and sand deposits are mainly more than 20 feet in thickness, but in a few places they are only a few feet thick over gray or red till.

In the extreme southeast corner of the county, the coarse alluvium is underlain by limestone and sandstone bedrock within a depth of 5 feet.

As the glacier retreated, large blocks of ice were left in the till and outwash. The melting of the ice blocks produced depressions in all of the glacial deposits, and most of these depressions are now lakes or marsh. Organic soils developed in the depressions where water stood for part of the year and along drainageways that were frequently flooded. The organic material ranges from 1 foot to more than 10 feet in thickness.

*Recent alluvium*—Recent alluvium refers to alluvium that has been deposited by streams during past glacial times. Recent alluvium was deposited on the flood plains of all the streams in the county. The largest areas of alluvium are on the broad flood plains along the Minnesota River. The material varies widely in color, texture, and reaction. Chaska soils are examples of soils that formed in alluvium. In most places the material is too recent for a profile to have formed.



## Time

The length of time the parent material has been in place and exposed to the soil-forming processes is an important factor in soil formation. Time is required for the parent material to be changed into a natural body that has genetically related horizons.

A mature soil is one that has well defined horizons. An immature soil is one that shows little or no horizonation. Because of differences in parent material, climate, relief, and organisms, soils that have been developing for about the same length of time have not necessarily reached the same degree of profile development. If the parent material weathers slowly, profile development is slow. If the slope is steep, soil is removed almost as soon as it forms and, consequently, no well defined horizons develop. In terms of geologic time, the soils in Hennepin County are quite young.

## Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 1 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind,

arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, meaning within, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Endoaquolls.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls.

**SERIES.** The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. The soils of the Canisteo series are fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls.

The Official Soil Series Descriptions (OSDs) provide the most current information about the series mapped in Hennepin County. These descriptions are available on the Web at <http://soils.usda.gov>.

Table 1.--Classification of the Soils

Soil name	Family or higher taxonomic class
Alganssee-----	Mixed, mesic Aquic Udipsamments
Almora-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, frigid Alfic Argiudolls
Angus-----	Fine-loamy, mixed, superactive, mesic Mollic HapludalFs
Anoka-----	Coarse-loamy, mixed, superactive, frigid Lamellic HapludalFs
Arvilla-----	Sandy, mixed, frigid Calcic Hapludolls
Belview-----	Fine-loamy, mixed, superactive, mesic Typic Calciudolls
Biscay-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquolls
Blue Earth-----	Fine-silty, mixed, superactive, calcareous, mesic Mollic Fluvaquents
Braham-----	Loamy, mixed, superactive, frigid Oxyaquic HapludalFs
Brouillett-----	Fine-loamy, mixed, superactive, mesic Aquic Cumulic Hapludolls
Bygland-----	Fine, smectitic, frigid Oxyaquic Vertic Argiudolls
Canisteo-----	Fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls
Cokato-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Cordova-----	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Corliss-----	Mixed, frigid Typic Udipsamments
Crowfork-----	Mixed, mesic Psammentic Argiudolls
Darfur-----	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
Dassel-----	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
Derrynane-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Dorset-----	Coarse-loamy, mixed, superactive, frigid Calcic Argiudolls
Duelm-----	Sandy, mixed, frigid Oxyaquic Hapludolls
Dundas-----	Fine-loamy, mixed, superactive, mesic Mollic EndoaqualFs
Eden Prairie-----	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Elkriver-----	Coarse-loamy, mixed, superactive, frigid Cumulic Hapludolls
Fedji-----	Sandy over loamy, mixed, superactive, mesic Typic Hapludolls
Finchford-----	Sandy, mixed, mesic Entic Hapludolls
Foldahl-----	Sandy over loamy, mixed, superactive, frigid Oxyaquic Hapludolls
Forada-----	Coarse-loamy, mixed, superactive, frigid Typic Endoaquolls
Fordum-----	Coarse-loamy, mixed, superactive, nonacid, frigid Mollic Fluvaquents
Forestcity-----	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Glencoe-----	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Gonvick-----	Fine-loamy, mixed, superactive, frigid Aquic Argiudolls
Good Thunder-----	Fine, smectitic, mesic Aquertic Argiudolls
Gotham-----	Mixed, mesic Psammentic HapludalFs
Granby-----	Sandy, mixed, mesic Typic Endoaquolls
Grays-----	Fine-silty, mixed, superactive, mesic Oxyaquic HapludalFs
Hamel-----	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Hanlon-----	Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
Hawick-----	Sandy, mixed, mesic Entic Hapludolls
Houghton-----	Euic, mesic Typic Haplosaprists
Hubbard-----	Sandy, mixed, frigid Entic Hapludolls
Isan-----	Sandy, mixed, frigid Typic Endoaquolls
Kasota-----	Clayey over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
Kilkenny-----	Fine, smectitic, mesic Oxyaquic Vertic HapludalFs
Kingsley-----	Coarse-loamy, mixed, superactive, mesic Mollic HapludalFs
Klossner-----	Loamy, mixed, euic, mesic Terric Haplosaprists
Koronis-----	Fine-loamy, mixed, superactive, mesic Mollic HapludalFs
Kost-----	Sandy, mixed, frigid Entic Hapludolls
Kratka-----	Sandy over loamy, mixed, superactive, frigid Typic Endoaquolls
Langola-----	Coarse-loamy, mixed, superactive, frigid Oxyaquic Argiudolls
Le Sueur-----	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Lerdal-----	Fine, smectitic, mesic Aeris Vertic EpiaqualFs
Lester-----	Fine-loamy, mixed, superactive, mesic Mollic HapludalFs
Lindaas-----	Fine, smectitic, frigid Typic Argiaquolls
Litchfield-----	Sandy, mixed, mesic Aquic Hapludolls
Lundlake-----	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Malardi-----	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Marcellon-----	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Markey-----	Sandy or sandy-skeletal, mixed, euic, frigid Terric Haplosaprists
Mayer-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, calcareous, mesic Typic Endoaquolls

Table 1.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Mazaska-----	Fine, smectitic, mesic Vertic Argiaquolls
Medo-----	Loamy, mixed, euic, mesic Terric Haplosaprists
Metea-----	Loamy, mixed, active, mesic Arenic HapludalFs
Minneiska-----	Coarse-loamy, mixed, superactive, calcareous, mesic Mollic Udifluvents
Minnetonka-----	Fine, smectitic, mesic Vertic Argiaquolls
Moon-----	Fine-loamy, mixed, active, mesic Oxyaquic HapludalFs
Mosford-----	Sandy, mixed, frigid Typic Hapludolls
Muskego-----	Coprogeous, euic, mesic Limnic Haplosaprists
Nessel-----	Fine-loamy, mixed, superactive, mesic Oxyaquic HapludalFs
Okoboji-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Oshawa-----	Fine-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls
Rasset-----	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Ridgeton-----	Fine-loamy, mixed, superactive, mesic Pachic Hapludolls
Rushriver-----	Coarse-loamy, mixed, superactive, calcareous, mesic Mollic Fluvaquents
Sandberg-----	Sandy, mixed, frigid Calcic Hapludolls
Sedgenville-----	Coarse-loamy, mixed, superactive, frigid Fluvaquentic Endoaquolls
Seelyville-----	Euic, frigid Typic Haplosaprists
Shields-----	Fine, smectitic, mesic Vertic EpiaqualFs
Shorewood-----	Fine, smectitic, mesic Aquertic Argiudolls
Soderville-----	Sandy, mixed, frigid Oxyaquic HapludalFs
Southhaven-----	Fine-loamy, mixed, superactive, frigid Cumulic Hapludolls
Suckercreek-----	Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls
Tadkee-----	Sandy over loamy, mixed, superactive, nonacid, mesic Mollic Endoaquents
Terril-----	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Tomall-----	Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
Two Inlets-----	Mixed, frigid Psammentic HapludalFs
Udipsamments-----	Mixed Udipsamments
Verndale-----	Coarse-loamy, mixed, superactive, frigid Typic Argiudolls
Waukon-----	Fine-loamy, mixed, superactive, frigid Mollic HapludalFs
Winterfield-----	Mixed, frigid Aquic Udipsamments
Zimmerman-----	Mixed, frigid Lamellic Udipsamments

# Soil Map Unit Descriptions

---

This section includes the soil map unit descriptions for the soil series mapped in Hennepin County.

Characteristics of the soil and the material in which it formed are identified for each soil series. A brief description of the soil profile is provided in the map unit descriptions. For more information about a soil series, the official series description can be viewed or downloaded from the Web. The detailed descriptions follow standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998).

The map units on the soil maps in this survey represent the soils or miscellaneous areas in the survey area. These soils or miscellaneous areas are listed as individual components in the map unit descriptions. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is provided in the tables (see Contents).

A map unit delineation on the soil maps represents an area on the landscape. It is identified by differences in the properties and taxonomic classification of components and by the percentage of each component in the map unit.

Components that are dissimilar, or contrasting, are identified in the map unit description. Dissimilar components are those that have properties and behavioral characteristics divergent enough from those of the major components to affect use or to require different management. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps.

Components that are similar to the major components (noncontrasting) are not identified in the map unit description. Similar components are those that have properties and behavioral characteristics similar enough to those of the major components that they do not affect use or require different management.

The presence of multiple components in a map unit in no way diminishes the usefulness or accuracy of the

data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol is used for each map unit on the soil maps. This symbol precedes the map unit name in the map unit descriptions. Each description includes general information about the unit. The map unit descriptions include representative values in feet and the months in which wet soil moisture status is highest and lowest in the soil profile and ponding is shallowest and deepest on the soil surface. They also include the classes of flooding and the months in which flooding is least and most likely to occur. Tables 20, 21, and 22 provide a complete display of this data for every month of the year. The available water capacity given in each map unit description is calculated for all horizons in the upper 60 inches of the soil profile. The organic matter content displayed in each map unit description is calculated for all horizons in the upper 10 inches of the soil profile, except those that represent the surface duff layer on forested soils. Table 18 provides a complete display of available water capacity and organic matter content by horizon.

The principal hazards and limitations to be considered in planning for specific uses are described in other sections of this survey.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying layers, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. The name of a soil phase commonly indicates a feature that affects use or management. For example, Hubbard loamy sand,

0 to 2 percent slopes, is a phase of the Hubbard series.

A map unit is named for the component or components that make up a dominant percentage of the map unit. Many map units consist of one dominant component. These map units are consociations. Cordova loam, 0 to 2 percent slopes, is an example.

Some map units are made up of two or more dominant components. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more components in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. Attempting to delineate the individual components of a complex would result in excessive clutter that could make the map illegible. The pattern and proportion of the components are somewhat similar in all areas. Lester-Kilkenny complex, 18 to 25 percent slopes, is an example.

An *undifferentiated group* is made up of two or more components that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the components in a mapped area are not uniform. An area can be made up of only one of the dominant components, or it can be made up of all of them. Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes, is an undifferentiated group in this survey area.

This survey includes miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Urban land is an example.

The abbreviation "MAP" in a map unit name stands for "mean annual precipitation." The numbers that follow the abbreviation refer to a range in inches.

Table 2 gives the acreage and proportionate extent of each map unit. Other tables (see Contents) give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## **D1B—Anoka and Zimmerman soils, terrace, 2 to 6 percent slopes**

### ***Component Description***

#### **Anoka, terrace, and similar soils**

*Extent:* 30 to 60 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Summits, shoulders, and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 10 inches; loamy fine sand

E,E&Bt—10 to 60 inches; fine sand

#### **Zimmerman, terrace, and similar soils**

*Extent:* 30 to 60 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes, shoulders, and summits

*Slope range:* 2 to 4 percent

*Texture of the surface layer:* Fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 0.9 percent

*Typical profile:*

Ap—0 to 9 inches; fine sand

E,E&Bt—9 to 60 inches; fine sand

#### **Kost**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None



*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 14 inches; loamy fine sand

Bw—14 to 33 inches; fine sand

C—33 to 60 inches; sand

## **D1C—Anoka and Zimmerman soils, terrace, 6 to 12 percent slopes**

### ***Component Description***

#### **Anoka, terrace, and similar soils**

*Extent:* 35 to 65 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes, shoulders, and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 10 inches; loamy fine sand

E,E&Bt—10 to 60 inches; fine sand

#### **Zimmerman, terrace, and similar soils**

*Extent:* 35 to 65 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Summits, shoulders, and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 0.9 percent

*Typical profile:*

Ap—0 to 9 inches; fine sand

E,E&Bt—9 to 60 inches; fine sand

### **Kost**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes

*Slope range:* 6 to 10 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 14 inches; loamy fine sand

Bw—14 to 33 inches; fine sand

C—33 to 60 inches; sand

## **D2A—Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded**

### ***Component Description***

#### **Elkriver, rarely flooded, and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, July, August, September, October, November, December

*Flooding is most likely (frequency, months):* Rare (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* 3 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam  
A1,A3—10 to 35 inches; fine sandy loam  
Bw—35 to 39 inches; fine sandy loam  
2C—39 to 80 inches; sand

### **Mosford, rarely flooded**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, July, August, September, October, November, December

*Flooding is most likely (frequency, months):* Rare (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* 5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 11 inches; fine sandy loam  
Bw1—11 to 16 inches; fine sandy loam  
Bw2,C2—16 to 57 inches; fine sand  
C3—57 to 80 inches; gravelly sand

### **Elkriver, occasionally flooded**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5

feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.4 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam  
A1,A3—10 to 26 inches; fine sandy loam  
Bw—26 to 32 inches; very fine sandy loam  
2C—32 to 80 inches; sand

## **D3A—Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded**

### ***Component Description***

#### **Elkriver, occasionally flooded, and similar soils**

*Extent:* 75 to 95 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5

feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.4 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam  
A1,A3—10 to 26 inches; fine sandy loam  
Bw—26 to 32 inches; very fine sandy loam  
2C—32 to 80 inches; sand

#### **Fordum, frequently flooded**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Drainageways

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.6 inches

*Content of organic matter in the upper 10 inches:* 5.2 percent

*Typical profile:*

A—0 to 7 inches; fine sandy loam

Cg—7 to 28 inches; sandy loam

2Cg—28 to 80 inches; sand

#### **Winterfield, occasionally flooded**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Slight rises

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, August, September, October, November, December

*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July)

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5 feet (September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 2.4 percent

*Typical profile:*

A—0 to 8 inches; loamy fine sand

C1,C2—8 to 20 inches; sand

C3,C5—20 to 80 inches; sand

#### **D4A—Dorset sandy loam, 0 to 2 percent slopes**

##### ***Component Description***

##### **Dorset and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam

2BC—20 to 27 inches; gravelly coarse sand

2C—27 to 60 inches; gravelly coarse sand

##### **Verndale, acid substratum**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

**Almora**

*Extent:* 0 to 5 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.7 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap—0 to 10 inches; loam  
 BE—10 to 14 inches; fine sandy loam  
 Bt—14 to 36 inches; loam  
 2Bt—36 to 41 inches; loamy sand  
 2C—41 to 80 inches; gravelly coarse sand

**D4B—Dorset sandy loam, 2 to 6 percent slopes*****Component Description*****Dorset and similar soils**

*Extent:* 75 to 95 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Summits, backslopes, and shoulders  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.5 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam  
 2BC—20 to 27 inches; gravelly coarse sand  
 2C—27 to 60 inches; gravelly coarse sand

**Verndale, acid substratum**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.8 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 19 inches; sandy loam  
 2Bw—19 to 28 inches; sand  
 2C—28 to 80 inches; sand

**Almora**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.7 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap—0 to 10 inches; loam  
 BE—10 to 14 inches; fine sandy loam  
 Bt—14 to 36 inches; loam  
 2Bt—36 to 41 inches; loamy sand  
 2C—41 to 80 inches; gravelly coarse sand



## D4C—Dorset sandy loam, 6 to 12 percent slopes

### *Component Description*

#### **Dorset and similar soils**

*Extent:* 70 to 85 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Backslopes, shoulders, and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap,A—0 to 11 inches; sandy loam

Bt—11 to 19 inches; sandy loam

2BC—19 to 32 inches; gravelly loamy sand

2C—32 to 80 inches; gravelly coarse sand

#### **Verndale, acid substratum**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Backslopes and footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

#### **Almora**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.7 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap—0 to 10 inches; loam

BE—10 to 14 inches; fine sandy loam

Bt—14 to 36 inches; loam

2Bt—36 to 41 inches; loamy sand

2C—41 to 80 inches; gravelly coarse sand

## D5B—Dorset-Two Inlets complex, 2 to 6 percent slopes

### *Component Description*

#### **Dorset and similar soils**

*Extent:* 50 to 75 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Backslopes and shoulders

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 11 inches; sandy loam  
 Bt—11 to 19 inches; sandy loam  
 2BC—19 to 32 inches; gravelly loamy sand  
 2C—32 to 80 inches; gravelly coarse sand

**Two Inlets and similar soils**

*Extent:* 20 to 30 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Shoulders  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 0.7 percent  
*Typical profile:*  
 Ap—0 to 9 inches; loamy sand  
 Bt—9 to 19 inches; gravelly loamy sand  
 C—19 to 80 inches; gravelly sand

**Verndale, acid substratum**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.8 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 19 inches; sandy loam  
 2Bw—19 to 28 inches; sand  
 2C—28 to 80 inches; sand

**Southhaven**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A3—0 to 48 inches; loam  
 Bw—48 to 62 inches; loam  
 2Bw—62 to 66 inches; loamy sand  
 2C—66 to 80 inches; sand

**D5C—Dorset-Two Inlets complex, 6 to 12 percent slopes*****Component Description*****Dorset and similar soils**

*Extent:* 50 to 65 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
 Ap,A—0 to 11 inches; sandy loam



Bt—11 to 19 inches; sandy loam  
 2BC—19 to 32 inches; gravelly loamy sand  
 2C—32 to 80 inches; gravelly coarse sand

### **Two Inlets and similar soils**

*Extent:* 20 to 40 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Shoulders  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 0.7 percent  
*Typical profile:*  
 Ap—0 to 9 inches; loamy sand  
 Bt—9 to 19 inches; gravelly loamy sand  
 C—19 to 80 inches; gravelly sand

### **Southhaven**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A3—0 to 48 inches; loam  
 Bw—48 to 62 inches; loam  
 2Bw—62 to 66 inches; loamy sand  
 2C—66 to 80 inches; sand

### **Verndale, acid substratum**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Backslopes and footslopes  
*Slope range:* 6 to 9 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.8 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 19 inches; sandy loam  
 2Bw—19 to 28 inches; sand  
 2C—28 to 80 inches; sand

## **D5D—Dorset-Two Inlets complex, 12 to 18 percent slopes**

### ***Component Description***

#### **Dorset and similar soils**

*Extent:* 45 to 60 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Backslopes and summits  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 Ap—0 to 9 inches; sandy loam  
 Bt—9 to 14 inches; sandy loam

2Bt,2BC—14 to 25 inches; gravelly loamy sand  
2C—25 to 80 inches; gravelly sand

### **Two Inlets and similar soils**

*Extent:* 25 to 40 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Shoulders  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 0.7 percent  
*Typical profile:*  
Ap—0 to 9 inches; loamy sand  
Bt—9 to 19 inches; gravelly loamy sand  
C—19 to 80 inches; gravelly sand

### **Southhaven**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
Ap,A3—0 to 48 inches; loam  
Bw—48 to 62 inches; loam  
2Bw—62 to 66 inches; loamy sand  
2C—66 to 80 inches; sand

### **Verndale, acid substratum**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 6 to 9 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.8 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
Ap—0 to 10 inches; sandy loam  
Bt—10 to 19 inches; sandy loam  
2Bw—19 to 28 inches; sand  
2C—28 to 80 inches; sand

### **D6A—Verndale sandy loam, acid substratum, 0 to 2 percent slopes**

#### ***Component Description***

#### **Verndale, acid substratum, and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Flats  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.8 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
Ap—0 to 10 inches; sandy loam  
Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

### **Dorset**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam

2BC—20 to 27 inches; gravelly coarse sand

2C—27 to 60 inches; gravelly coarse sand

### **Hubbard**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,AB—0 to 20 inches; loamy sand

Bw—20 to 32 inches; loamy sand

BC,C—32 to 80 inches; sand

## **D6B—Verndale sandy loam, acid substratum, 2 to 6 percent slopes**

### ***Component Description***

#### **Verndale, acid substratum, and similar soils**

*Extent:* 75 to 100 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

### **Dorset**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam

2BC—20 to 27 inches; gravelly coarse sand

2C—27 to 60 inches; gravelly coarse sand

### Hubbard

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Shoulders

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 80 inches; sand

### D6C—Verndale sandy loam, acid substratum, 6 to 12 percent slopes

#### Component Description

#### Verndale, acid substratum, and similar soils

*Extent:* 80 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Backslopes and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

### Dorset

*Extent:* 15 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Backslopes and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap,A—0 to 11 inches; sandy loam

Bt—11 to 19 inches; sandy loam

2BC—19 to 32 inches; gravelly loamy sand

2C—32 to 80 inches; gravelly coarse sand

### Hubbard

*Extent:* 5 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Shoulders

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap,AB—0 to 12 inches; loamy sand

Bw—12 to 33 inches; coarse sand

C—33 to 80 inches; coarse sand

**D7A—Hubbard loamy sand, 0 to 2 percent slopes*****Component Description*****Hubbard and similar soils***Extent:* 85 to 100 percent of the unit*Geomorphic setting:* Stream terraces and outwash plains*Position on the landform:* Flats*Slope range:* 0 to 2 percent*Texture of the surface layer:* Loamy sand*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Excessively drained*Parent material:* Outwash*Flooding:* None*Depth to wet soil moisture status:* More than 6.7 feet all year*Ponding:* None*Available water capacity to a depth of 60 inches:* 4 inches*Content of organic matter in the upper 10 inches:* 3 percent*Typical profile:*

Ap,AB—0 to 20 inches; loamy sand

Bw—20 to 32 inches; loamy sand

BC,C—32 to 80 inches; sand

**Mosford***Extent:* 0 to 10 percent of the unit*Geomorphic setting:* Outwash plains and stream terraces*Position on the landform:* Swales*Slope range:* 0 to 2 percent*Texture of the surface layer:* Sandy loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Somewhat excessively drained*Parent material:* Outwash*Flooding:* None*Depth to wet soil moisture status:* More than 6.7 feet all year*Ponding:* None*Available water capacity to a depth of 60 inches:* 5.1 inches*Content of organic matter in the upper 10 inches:* 3 percent*Typical profile:*

Ap,A—0 to 13 inches; sandy loam

Bw—13 to 16 inches; coarse sandy loam

2Bw—16 to 35 inches; coarse sand

2C—35 to 80 inches; sand

**D7B—Hubbard loamy sand, 2 to 6 percent slopes*****Component Description*****Hubbard and similar soils***Extent:* 85 to 100 percent of the unit*Geomorphic setting:* Hills on outwash plains; hills on stream terraces*Position on the landform:* Summits, shoulders, and backslopes*Slope range:* 2 to 6 percent*Texture of the surface layer:* Loamy sand*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Excessively drained*Parent material:* Outwash*Flooding:* None*Depth to wet soil moisture status:* More than 6.7 feet all year*Ponding:* None*Available water capacity to a depth of 60 inches:* 3.9 inches*Content of organic matter in the upper 10 inches:* 3 percent*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 80 inches; sand

**Mosford***Extent:* 0 to 15 percent of the unit*Geomorphic setting:* Stream terraces and outwash plains*Position on the landform:* Swales*Slope range:* 1 to 3 percent*Texture of the surface layer:* Sandy loam*Depth to restrictive feature:* More than 60 inches*Drainage class:* Somewhat excessively drained*Parent material:* Outwash*Flooding:* None*Depth to wet soil moisture status:* More than 6.7 feet all year*Ponding:* None*Available water capacity to a depth of 60 inches:* 5.1 inches*Content of organic matter in the upper 10 inches:* 3 percent*Typical profile:*

Ap,A—0 to 13 inches; sandy loam

Bw—13 to 16 inches; coarse sandy loam

2Bw—16 to 35 inches; coarse sand

2C—35 to 80 inches; sand



## **D7C—Hubbard loamy sand, 6 to 12 percent slopes**

### ***Component Description***

#### **Hubbard and similar soils**

*Extent:* 75 to 100 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Backslopes, summits, and shoulders  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap, AB—0 to 12 inches; loamy sand  
 Bw—12 to 33 inches; coarse sand  
 C—33 to 80 inches; coarse sand

#### **Sandberg**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Shoulders  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy coarse sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.9 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
 Ap, A—0 to 14 inches; loamy coarse sand  
 Bw—14 to 32 inches; gravelly coarse sand  
 C—32 to 80 inches; sand

## **Mosford**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Swales  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.1 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap, A—0 to 13 inches; sandy loam  
 Bw—13 to 16 inches; coarse sandy loam  
 2Bw—16 to 35 inches; coarse sand  
 2C—35 to 80 inches; sand

## **D8B—Sandberg loamy coarse sand, 2 to 6 percent slopes**

### ***Component Description***

#### **Sandberg and similar soils**

*Extent:* 90 to 100 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Summits, shoulders, and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loamy coarse sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.9 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
 Ap, A—0 to 14 inches; loamy coarse sand



Bw—14 to 32 inches; gravelly coarse sand  
C—32 to 80 inches; sand

### **Arvilla, MAP >25**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Coarse sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.1 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
Ap,A—0 to 14 inches; coarse sandy loam  
Bw—14 to 17 inches; coarse sandy loam  
2Bw,2C—17 to 80 inches; gravelly coarse sand

### **D8C—Sandberg loamy coarse sand, 6 to 12 percent slopes**

#### ***Component Description***

#### **Sandberg and similar soils**

*Extent:* 75 to 95 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Shoulders and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy coarse sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.9 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
Ap,A—0 to 14 inches; loamy coarse sand

Bw—14 to 32 inches; gravelly coarse sand  
C—32 to 80 inches; sand

### **Corliss**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.5 inches  
*Content of organic matter in the upper 10 inches:* 2.2 percent  
*Typical profile:*  
Ap—0 to 7 inches; loamy sand  
Bw—7 to 28 inches; coarse sand  
C—28 to 80 inches; coarse sand

### **Southhaven**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
Ap,A3—0 to 48 inches; loam  
Bw—48 to 62 inches; loam  
2Bw—62 to 66 inches; loamy sand  
2C—66 to 80 inches; sand

## **D8D—Sandberg loamy coarse sand, 12 to 18 percent slopes**

### ***Component Description***

#### **Sandberg and similar soils**

*Extent:* 75 to 90 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Shoulders and backslopes  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Loamy coarse sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 11 inches; loamy coarse sand  
 Bw—11 to 27 inches; coarse sand  
 C—27 to 80 inches; gravelly coarse sand

#### **Corliss**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Backslopes and summits  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.5 inches  
*Content of organic matter in the upper 10 inches:* 2.2 percent  
*Typical profile:*  
 Ap—0 to 7 inches; loamy sand  
 Bw—7 to 28 inches; coarse sand  
 C—28 to 80 inches; coarse sand

#### **Southaven**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A3—0 to 48 inches; loam  
 Bw—48 to 62 inches; loam  
 2Bw—62 to 66 inches; loamy sand  
 2C—66 to 80 inches; sand

## **D8E—Sandberg loamy coarse sand, 18 to 35 percent slopes**

### ***Component Description***

#### **Sandberg and similar soils**

*Extent:* 70 to 90 percent of the unit  
*Geomorphic setting:* Escarpments  
*Position on the landform:* Backslopes and shoulders  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Loamy coarse sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 A—0 to 11 inches; loamy coarse sand  
 Bw—11 to 27 inches; coarse sand  
 C—27 to 80 inches; gravelly coarse sand

#### **Corliss**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Escarpments

*Position on the landform:* Backslopes and summits  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.5 inches  
*Content of organic matter in the upper 10 inches:* 2.2 percent  
*Typical profile:*  
 Ap—0 to 7 inches; loamy sand  
 Bw—7 to 28 inches; coarse sand  
 C—28 to 80 inches; coarse sand

### **Southhaven**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Escarpments  
*Position on the landform:* Toeslopes and footslopes  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* More than 60 inches  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A3—0 to 48 inches; loam  
 Bw—48 to 62 inches; loam  
 2Bw—62 to 66 inches; loamy sand  
 2C—66 to 80 inches; sand

### **D10A—Forada sandy loam, 0 to 2 percent slopes**

#### ***Component Description***

#### **Forada and similar soils**

*Extent:* 85 to 100 percent of the unit

*Geomorphic setting:* Stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.6 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bg—10 to 33 inches; loam  
 2Cg—33 to 60 inches; sand

### **Depressional soil**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 7.2 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,AB—0 to 19 inches; sandy loam  
 Bg—19 to 38 inches; loam  
 2Cg—38 to 60 inches; sand

## D11A—Lindaas silt loam, 0 to 2 percent slopes

### *Component Description*

#### **Lindaas and similar soils**

*Extent:* 75 to 100 percent of the unit  
*Geomorphic setting:* Lake plains  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 16 inches; silt loam  
 Btg—16 to 32 inches; silty clay  
 Cg—32 to 80 inches; silty clay loam

#### **Lindaas, sandy substratum**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Lake plains  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Glaciolacustrine sediments over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap—0 to 14 inches; silt loam  
 Btg—14 to 20 inches; silty clay

Cg—20 to 62 inches; silty clay loam  
 2Cg—62 to 80 inches; stratified very gravelly coarse sand to loamy sand

#### **Depressional soil**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Lake plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 9.5 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 23 inches; silt loam  
 Btg—23 to 30 inches; silty clay  
 Cg—30 to 80 inches; silty clay loam

## D12B—Bygland silt loam, MAP >25, 2 to 6 percent slopes

### *Component Description*

#### **Bygland, MAP >25, and similar soils**

*Extent:* 65 to 90 percent of the unit  
*Geomorphic setting:* Hills on lake plains  
*Position on the landform:* Summits, backslopes, and shoulders  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (July, August, September)



*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.2 inches

*Content of organic matter in the upper 10 inches:* 2.8 percent

*Typical profile:*

Ap—0 to 9 inches; silt loam

Bt—9 to 23 inches; silty clay

BC—23 to 27 inches; silt loam

C—27 to 80 inches; stratified silt loam to silty clay loam

### **Bygland, sandy substratum**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on lake plains

*Position on the landform:* Footslopes and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Glaciolacustrine sediments over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.3 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 14 inches; silt loam

Bt—14 to 26 inches; silty clay

BC—26 to 38 inches; silty clay loam

C—38 to 63 inches; stratified silt loam to silty clay loam

2C—63 to 80 inches; stratified very gravelly coarse sand to loamy sand

### **Lindaas**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Lake plains

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Glaciolacustrine sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.9 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

Ap,A—0 to 16 inches; silt loam

Btg—16 to 32 inches; silty clay

Cg—32 to 80 inches; silty clay loam

### **Depressional soil**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Lake plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Glaciolacustrine sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

Ap,A—0 to 23 inches; silt loam

Btg—23 to 30 inches; silty clay

Cg—30 to 80 inches; silty clay loam

## **D12C2—Bygland silt loam, MAP >25, 6 to 12 percent slopes, eroded**

### **Component Description**

#### **Bygland, MAP >25, and similar soils**

*Extent:* 65 to 90 percent of the unit

*Geomorphic setting:* Hills on lake plains

*Position on the landform:* Backslopes, summits, and shoulders

*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.1 inches  
*Content of organic matter in the upper 10 inches:* 0.9 percent  
*Typical profile:*  
 Ap—0 to 7 inches; silt loam  
 Bt—7 to 20 inches; silty clay  
 BC—20 to 26 inches; silt loam  
 C—26 to 80 inches; stratified silt loam to silty clay loam

#### **Bygland, sandy substratum**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on lake plains  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 6 to 10 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciolacustrine sediments over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.3 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.5 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap,A—0 to 14 inches; silt loam  
 Bt—14 to 26 inches; silty clay  
 BC—26 to 38 inches; silty clay loam  
 C—38 to 63 inches; stratified silt loam to silty clay loam

2C—63 to 80 inches; stratified very gravelly coarse sand to loamy sand

#### **Lindaas**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Lake plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 16 inches; silt loam  
 Btg—16 to 32 inches; silty clay  
 Cg—32 to 80 inches; silty clay loam

#### **Depressional soil**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Lake plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 9.5 inches  
*Content of organic matter in the upper 10 inches:* 5 percent



*Typical profile:*

Ap,A—0 to 23 inches; silt loam  
 Btg—23 to 30 inches; silty clay  
 Cg—30 to 80 inches; silty clay loam

### **D13A—Langola loamy fine sand, terrace, 0 to 2 percent slopes**

#### ***Component Description***

##### **Langola, terrace, and similar soils**

*Extent:* 75 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Flats  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.8 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap,AB—0 to 15 inches; loamy fine sand  
 Bw—15 to 31 inches; loamy sand  
 2Bt—31 to 39 inches; sandy loam  
 2BC—39 to 43 inches; sandy loam  
 2Cd—43 to 60 inches; sandy loam

##### **Duelm**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)  
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,AB—0 to 16 inches; loamy sand  
 Bw—16 to 30 inches; coarse sand  
 C—30 to 80 inches; coarse sand

##### **Hubbard**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Slight rises  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap,AB—0 to 20 inches; loamy sand  
 Bw—20 to 32 inches; loamy sand  
 BC,C—32 to 80 inches; sand

### **D13B—Langola loamy fine sand, terrace, 2 to 6 percent slopes**

#### ***Component Description***

##### **Langola, terrace, and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Shoulders, summits, and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,AB—0 to 15 inches; loamy fine sand

Bw—15 to 31 inches; loamy sand

2Bt—31 to 39 inches; sandy loam

2BC—39 to 43 inches; sandy loam

2Cd—43 to 60 inches; sandy loam

### **Hubbard**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 80 inches; sand

### **Duelm**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)

*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,AB—0 to 16 inches; loamy sand

Bw—16 to 30 inches; coarse sand

C—30 to 80 inches; coarse sand

## **D15A—Seelyeville-Markey complex, depressional, 0 to 1 percent slopes**

### **Component Description**

#### **Seelyeville, drained, and similar soils**

*Extent:* 50 to 100 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oap—0 to 10 inches; muck

Oa2,Oa5—10 to 60 inches; muck

#### **Markey, drained, and similar soils**

*Extent:* 15 to 30 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 13.1 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oap,Oa2,Oa3—0 to 28 inches; muck

A—28 to 32 inches; loamy sand

Cg—32 to 80 inches; sand

### **Mineral soil, drained**

*Extent:* 10 to 30 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A—0 to 18 inches; sandy loam

AB,Bg—18 to 29 inches; loamy sand

Cg—29 to 80 inches; coarse sand

## **D16A—Seelyeville and Markey soils, ponded, 0 to 1 percent slopes**

### ***Component Description***

#### **Seelyeville, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding:* None

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 0.5 foot (August)

*Ponding is deepest (depth, months):* 3 feet (March, April, May)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa1—0 to 15 inches; muck

Oa2,Oa3—15 to 80 inches; muck

### **Markey, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over outwash

*Flooding:* None

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 0.5 foot (August)

*Ponding is deepest (depth, months):* 3 feet (March, April, May)

*Available water capacity to a depth of 60 inches:* 12.8 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa—0 to 27 inches; muck

A—27 to 32 inches; loamy sand

Cg—32 to 80 inches; sand

### **Mineral soil, ponded**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 0.5 foot (August)  
*Ponding is deepest (depth, months):* 3 feet (March, April, May)  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
     A—0 to 14 inches; sandy loam  
     AB,Bg—14 to 34 inches; loamy sand  
     Cg—34 to 80 inches; coarse sand

## **D17A—Duelm loamy sand, 0 to 2 percent slopes**

### ***Component Description***

#### **Duelm and similar soils**

*Extent:* 85 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.4 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
     Ap,AB—0 to 16 inches; loamy sand  
     Bw—16 to 30 inches; coarse sand  
     C—30 to 80 inches; coarse sand

#### **Isan**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* More than 60 inches  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 6.5 percent  
*Typical profile:*  
     A—0 to 14 inches; sandy loam  
     AB,Bg—14 to 34 inches; loamy sand  
     Cg—34 to 80 inches; coarse sand

#### **Hubbard**

*Extent:* 0 to 5 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Slight rises  
*Slope range:* 2 to 4 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* More than 60 inches  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.9 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
     Ap,A—0 to 18 inches; loamy sand  
     Bw—18 to 23 inches; loamy sand  
     BC,C—23 to 80 inches; sand

## **D18B—Braham loamy fine sand, terrace, 2 to 5 percent slopes**

### ***Component Description***

#### **Braham, terrace, and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Summits, shoulders, and backslopes



*Slope range:* 2 to 5 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* More than 60 inches  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):*  
 More than 5 feet (January, February, June, July,  
 August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.4  
 inches  
*Content of organic matter in the upper 10 inches:* 1.7  
 percent  
*Typical profile:*  
 Ap—0 to 8 inches; loamy fine sand  
 E—8 to 24 inches; loamy fine sand  
 2Bt—24 to 42 inches; sandy clay loam  
 2Bk—42 to 60 inches; loam

#### **Duelm**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* More than 60 inches  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 2.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* 4  
 feet (February, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.4  
 inches  
*Content of organic matter in the upper 10 inches:* 4  
 percent  
*Typical profile:*  
 Ap,AB—0 to 16 inches; loamy sand  
 Bw—16 to 30 inches; coarse sand  
 C—30 to 80 inches; coarse sand

### **D19A—Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded**

#### ***Component Description***

#### **Fordum, frequently flooded, and similar soils**

*Extent:* 50 to 100 percent of the unit  
*Geomorphic setting:* Flood plains

*Position on the landform:* Drainageways  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60  
 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February,  
 September, October, November, December  
*Flooding is most likely (frequency, months):* Frequent  
 (March, April, May, June)  
*Wet soil moisture status is highest (depth, months):* At  
 the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.8  
 feet (February)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.6  
 inches  
*Content of organic matter in the upper 10 inches:* 5.2  
 percent  
*Typical profile:*  
 A—0 to 7 inches; fine sandy loam  
 Cg—7 to 28 inches; sandy loam  
 2Cg—28 to 80 inches; sand

#### **Winterfield, frequently flooded, and similar soils**

*Extent:* 20 to 40 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* More than 60 inches  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February,  
 September, October, November, December  
*Flooding is most likely (frequency, months):* Frequent  
 (March, April)  
*Wet soil moisture status is highest (depth, months):*  
 1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5  
 feet (September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7  
 inches  
*Content of organic matter in the upper 10 inches:* 2.4  
 percent  
*Typical profile:*  
 A—0 to 8 inches; loamy fine sand  
 C1,C2—8 to 20 inches; sand  
 C3,C5—20 to 80 inches; sand

#### **Fordum, occasionally flooded**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Flood plains  
*Position on the landform:* Flats  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.7 inches  
*Content of organic matter in the upper 10 inches:* 7 percent  
*Typical profile:*  
     Ap—0 to 9 inches; loam  
     Cg—9 to 38 inches; loam  
     2Cg—38 to 80 inches; stratified sand to silt loam

## **D20A—Isan sandy loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Isan and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 6.5 percent  
*Typical profile:*  
     A—0 to 14 inches; sandy loam

AB,Bg—14 to 34 inches; loamy sand  
 Cg—34 to 80 inches; coarse sand

#### **Isan, depressional**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 6.5 percent  
*Typical profile:*  
     A—0 to 14 inches; sandy loam  
     AB,Bg—14 to 34 inches; loamy sand  
     Cg—34 to 80 inches; coarse sand

#### **Duelm**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.4 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
     Ap,AB—0 to 16 inches; loamy sand



Bw—16 to 30 inches; coarse sand  
C—30 to 80 inches; coarse sand

## **D21A—Isan sandy loam, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Isan, depressional, and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 6.5 percent  
*Typical profile:*  
A—0 to 14 inches; sandy loam  
AB,Bg—14 to 34 inches; loamy sand  
Cg—34 to 80 inches; coarse sand

#### **Isan**

*Extent:* 10 to 20 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Rims of depressions  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)  
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 6.5 percent

#### *Typical profile:*

A—0 to 14 inches; sandy loam  
AB,Bg—14 to 34 inches; loamy sand  
Cg—34 to 80 inches; coarse sand

## **D23A—Southhaven loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Southhaven and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
Ap,A3—0 to 48 inches; loam  
Bw—48 to 62 inches; loam  
2Bw—62 to 66 inches; loamy sand  
2C—66 to 80 inches; sand

#### **Dorset**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Slight rises  
*Slope range:* 2 to 4 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 11 inches; sandy loam

Bt—11 to 19 inches; sandy loam

2BC—19 to 32 inches; gravelly loamy sand

2C—32 to 80 inches; gravelly coarse sand

### **Mosford**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 13 inches; sandy loam

Bw—13 to 16 inches; coarse sandy loam

2Bw—16 to 35 inches; coarse sand

2C—35 to 80 inches; sand

### **D24A—Sedgeville loam, 0 to 2 percent slopes, occasionally flooded**

#### ***Component Description***

#### **Sedgeville, occasionally flooded, and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* More than 60 inches

*Drainage class:* Poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3

feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.4 inches

*Content of organic matter in the upper 10 inches:* 7 percent

*Typical profile:*

Ap,A—0 to 15 inches; loam

Bg—15 to 45 inches; loam

2Cg—45 to 80 inches; sand

### **Elkriver, occasionally flooded**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.4 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam

A1,A3—10 to 26 inches; fine sandy loam

Bw—26 to 32 inches; very fine sandy loam

2C—32 to 80 inches; sand

### **D25A—Soderville loamy fine sand, terrace, 0 to 3 percent slopes**

#### ***Component Description***

#### **Soderville, terrace, and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Slight swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, March, June, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5 inches  
*Content of organic matter in the upper 10 inches:* 1.4 percent  
*Typical profile:*  
 Ap—0 to 9 inches; loamy fine sand  
 E—9 to 24 inches; loamy fine sand  
 Bt—24 to 31 inches; stratified loamy fine sand to fine sandy loam  
 C—31 to 60 inches; sand

### **Forada**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.6 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bg—10 to 33 inches; loam  
 2Cg—33 to 60 inches; sand

## **D26A—Foldahl loamy sand, MAP >25, 0 to 3 percent slopes**

### ***Component Description***

#### **Foldahl, MAP >25, and similar soils**

*Extent:* 85 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over stratified sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.9 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap,A—0 to 16 inches; loamy sand  
 Bw—16 to 31 inches; loamy sand  
 2Bw—31 to 40 inches; stratified loamy sand to sandy clay loam  
 2Bk—40 to 60 inches; stratified loamy sand to sandy clay loam

### **Hubbard**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,AB—0 to 20 inches; loamy sand

Bw—20 to 32 inches; loamy sand

BC,C—32 to 80 inches; sand

### **Isan**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 6.5 percent

*Typical profile:*

A—0 to 14 inches; sandy loam

AB,Bg—14 to 34 inches; loamy sand

Cg—34 to 80 inches; coarse sand

## **D27A—Dorset sandy loam, loamy substratum, 0 to 2 percent slopes**

### ***Component Description***

#### **Dorset, loamy substratum, and similar soils**

*Extent:* 70 to 100 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.2 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam

2BC—20 to 60 inches; gravelly coarse sand

3C—60 to 80 inches; loam

### **Dorset**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam

2BC—20 to 27 inches; gravelly coarse sand

2C—27 to 60 inches; gravelly coarse sand

### **Southaven**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A3—0 to 48 inches; loam



Bw—48 to 62 inches; loam  
 2Bw—62 to 66 inches; loamy sand  
 2C—66 to 80 inches; gravelly sand

## **D28B—Urban land-Bygland, MAP >25, complex, 1 to 6 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit  
*Geomorphic setting:* Lake plains  
*Slope range:* 1 to 6 percent  
*Flooding:* None  
*Ponding:* None  
*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Bygland, MAP >25, and similar soils**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on lake plains  
*Position on the landform:* Backslopes, summits, and shoulders  
*Slope range:* 1 to 6 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.2 inches  
*Content of organic matter in the upper 10 inches:* 2.8 percent  
*Typical profile:*  
     Ap—0 to 9 inches; silt loam  
     Bt—9 to 23 inches; silty clay  
     BC—23 to 27 inches; silt loam  
     C—27 to 80 inches; stratified silt loam to silty clay loam

#### **Bygland, sandy substratum**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on lake plains

*Position on the landform:* Backslopes  
*Slope range:* 1 to 6 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciolacustrine sediments over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.3 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.5 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
     Ap,A—0 to 14 inches; silt loam  
     Bt—14 to 26 inches; silty clay  
     BC—26 to 38 inches; silty clay loam  
     C—38 to 63 inches; stratified silt loam to silty clay loam  
     2C—63 to 80 inches; stratified very gravelly coarse sand to loamy sand

## **D29B—Urban land-Hubbard, bedrock substratum, complex, 0 to 8 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Slope range:* 0 to 8 percent  
*Flooding:* None  
*Ponding:* None  
*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Hubbard, bedrock substratum, and similar soils**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on stream terraces  
*Position on the landform:* Shoulders and summits  
*Slope range:* 0 to 8 percent  
*Texture of the surface layer:* Loamy sand



*Depth to restrictive feature:* 40 to 80 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Parent material:* Outwash over limestone bedrock

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 60 inches; sand

2R—60 to 80 inches; unweathered bedrock

### **Hubbard**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes

*Slope range:* 0 to 8 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 80 inches; sand

### **Mosford**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 13 inches; sandy loam

Bw—13 to 16 inches; coarse sandy loam

2Bw—16 to 35 inches; coarse sand

2C—35 to 80 inches; sand

## **D30A—Seelyeville and Markey soils, depressional, 0 to 1 percent slopes**

### **Component Description**

#### **Seelyeville, surface drained, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa1—0 to 10 inches; muck

Oa2,Oa5—10 to 80 inches; muck

#### **Markey, surface drained, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 15.8 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa—0 to 36 inches; muck

A—36 to 42 inches; loamy sand

Cg—42 to 80 inches; sand

#### **Mineral soil, surface drained**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A—0 to 14 inches; sandy loam

AB,Bg—14 to 34 inches; loamy sand

Cg—34 to 80 inches; coarse sand

### **D31A—Urban land-Duelm complex, 0 to 2 percent slopes**

#### ***Component Description***

##### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Stream terraces

*Slope range:* 0 to 2 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

##### **Duelm and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Flats and slight rises

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)

*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,AB—0 to 16 inches; loamy sand

Bw—16 to 30 inches; coarse sand

C—30 to 80 inches; coarse sand

##### **Hubbard**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Slight rises

*Slope range:* 2 to 4 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 80 inches; sand

### **Isan**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 6.5 percent

*Typical profile:*

A—0 to 14 inches; sandy loam

AB,Bg—14 to 34 inches; loamy sand

Cg—34 to 80 inches; coarse sand

## **D33B—Urban land-Dorset complex, 0 to 8 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Stream terraces

*Slope range:* 0 to 8 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of

residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

### **Dorset and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Summits, shoulders, and backslopes

*Slope range:* 0 to 8 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.5 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 12 inches; sandy loam

Bt—12 to 20 inches; coarse sandy loam

2BC—20 to 27 inches; gravelly coarse sand

2C—27 to 60 inches; gravelly coarse sand

### **Verndale, acid substratum**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Footslopes and backslopes

*Slope range:* 0 to 8 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

### Hubbard

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Shoulders

*Slope range:* 0 to 8 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,AB—0 to 20 inches; loamy sand

Bw—20 to 32 inches; loamy sand

BC,C—32 to 80 inches; sand

## D33C—Urban land-Dorset complex, 8 to 18 percent slopes

### Component Description

#### Urban land

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Stream terraces

*Slope range:* 8 to 18 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### Dorset and similar soils

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Shoulders, summits, and backslopes

*Slope range:* 8 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap,A—0 to 11 inches; sandy loam

Bt—11 to 19 inches; sandy loam

2BC—19 to 32 inches; gravelly loamy sand

2C—32 to 80 inches; gravelly coarse sand

### Verndale, acid substratum

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes and footslopes

*Slope range:* 8 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.8 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 19 inches; sandy loam

2Bw—19 to 28 inches; sand

2C—28 to 80 inches; sand

### Hubbard

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Shoulders

*Slope range:* 8 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None



*Available water capacity to a depth of 60 inches:* 3.6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap,AB—0 to 12 inches; loamy sand

Bw—12 to 33 inches; coarse sand

C—33 to 80 inches; coarse sand

### **D34B—Urban land-Hubbard complex, 0 to 8 percent slopes**

#### ***Component Description***

##### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Stream terraces

*Slope range:* 0 to 8 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

##### **Hubbard and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Shoulders, backslopes, and summits

*Slope range:* 0 to 8 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 80 inches; sand

##### **Mosford**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 13 inches; sandy loam

Bw—13 to 16 inches; coarse sandy loam

2Bw—16 to 35 inches; coarse sand

2C—35 to 80 inches; sand

### **D35A—Elkriver-Fordum complex, 0 to 2 percent slopes, occasionally flooded**

#### ***Component Description***

##### **Elkriver, occasionally flooded, and similar soils**

*Extent:* 70 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.4 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam

A1,A3—10 to 26 inches; fine sandy loam



Bw—26 to 32 inches; very fine sandy loam  
2C—32 to 80 inches; sand

#### **Fordum, occasionally flooded, and similar soils**

*Extent:* 5 to 25 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Drainageways  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.6 inches  
*Content of organic matter in the upper 10 inches:* 6.2 percent  
*Typical profile:*  
A—0 to 7 inches; fine sandy loam  
Cg—7 to 28 inches; sandy loam  
2Cg—28 to 80 inches; sand

#### **Udipsamments**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Flood plains  
*Slope range:* 0 to 2 percent  
*Parent material:* Fill material over alluvium  
*Flooding:* None  
*Ponding:* None  
*General description:* Udipsamments consist of fill material. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Winterfield, occasionally flooded**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 2.4 percent  
*Typical profile:*  
A—0 to 8 inches; loamy fine sand  
C1,C2—8 to 20 inches; sand  
C3,C5—20 to 80 inches; sand

### **D37F—Dorset, bedrock substratum-Rock outcrop complex, 25 to 65 percent slopes**

#### ***Component Description***

#### **Dorset, bedrock substratum, and similar soils**

*Extent:* 65 to 95 percent of the unit  
*Geomorphic setting:* Escarpments  
*Position on the landform:* Summits  
*Slope range:* 25 to 65 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* 40 to 80 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Parent material:* Outwash over limestone bedrock  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.5 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
A—0 to 12 inches; sandy loam  
Bt—12 to 20 inches; coarse sandy loam  
2BC—20 to 27 inches; gravelly coarse sand  
2C—27 to 60 inches; gravelly coarse sand  
3R—60 to 80 inches; unweathered bedrock

#### **Rock outcrop**

*Extent:* 10 to 35 percent of the unit  
*Geomorphic setting:* Escarpments

*Position on the landform:* Summits and shoulders

*Slope range:* 0 to 3 percent

*Type of bedrock:* Limestone

#### **Hubbard, bedrock substratum**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Backslopes

*Slope range:* 25 to 65 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* 40 to 80 inches to bedrock (lithic)

*Drainage class:* Excessively drained

*Parent material:* Outwash over limestone bedrock

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

A—0 to 18 inches; loamy sand

Bw—18 to 23 inches; loamy sand

BC,C—23 to 60 inches; sand

2R—60 to 80 inches; unweathered bedrock

#### **D40A—Kratka loamy fine sand, thick solum, 0 to 2 percent slopes**

##### ***Component Description***

##### **Kratka, thick solum, and similar soils**

*Extent:* 75 to 90 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Outwash over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.4 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 10 inches; loamy fine sand

Bg—10 to 30 inches; fine sand

2Bg,2Cg—30 to 60 inches; clay loam

#### **Duelm**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Flats and slight rises

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)

*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,AB—0 to 16 inches; loamy sand

Bw—16 to 30 inches; coarse sand

C—30 to 80 inches; coarse sand

#### **Foldahl, MAP >25**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Slight rises

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash over stratified sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 16 inches; loamy sand

Bw—16 to 31 inches; loamy sand

2Bw—31 to 40 inches; stratified loamy sand to sandy clay loam

2Bk—40 to 60 inches; stratified loamy sand to sandy clay loam

#### **D41C—Urban land-Waukon complex, 6 to 18 percent slopes**

##### ***Component Description***

##### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Stream terraces

*Slope range:* 6 to 18 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

##### **Waukon and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Backslopes, summits, and shoulders

*Slope range:* 6 to 18 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.9 inches

*Content of organic matter in the upper 10 inches:* 2.8 percent

*Typical profile:*

Ap—0 to 8 inches; fine sandy loam

E, BE, Bt—8 to 43 inches; loam

Bk—43 to 80 inches; loam

##### **Braham**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Hills on stream terraces

*Position on the landform:* Shoulders, backslopes, and summits

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4 inches

*Content of organic matter in the upper 10 inches:* 1.7 percent

*Typical profile:*

Ap—0 to 8 inches; loamy fine sand

E—8 to 24 inches; loamy fine sand

2Bt—24 to 42 inches; sandy clay loam

2Bk—42 to 60 inches; loam

#### **D43A—Gonvick loam, terrace, 1 to 3 percent slopes**

##### ***Component Description***

##### **Gonvick, terrace, and similar soils**

*Extent:* 75 to 95 percent of the unit

*Geomorphic setting:* Stream terraces

*Position on the landform:* Slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6 inches

*Content of organic matter in the upper 10 inches:* 3.5 percent

*Typical profile:*

Ap, A—0 to 12 inches; loam

Bt—12 to 30 inches; clay loam

Bk, C—30 to 60 inches; loam

**Braham**

*Extent:* 5 to 25 percent of the unit  
*Geomorphic setting:* Stream terraces  
*Position on the landform:* Slight rises  
*Slope range:* 2 to 4 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.4 inches  
*Content of organic matter in the upper 10 inches:* 1.7 percent  
*Typical profile:*  
 Ap—0 to 8 inches; loamy fine sand  
 E—8 to 24 inches; loamy fine sand  
 2Bt—24 to 42 inches; sandy clay loam  
 2Bk—42 to 60 inches; loam

**GP—Pits, gravel-Udipsamments complex*****Component Description*****Pits, gravel**

*Extent:* 50 to 100 percent of the unit  
*Geomorphic setting:* Moraines, outwash plains, and stream terraces  
*Parent material:* Sandy and gravelly outwash  
*General description:* Gravel pits are areas that have been mined for gravel or sand. Specific areas are actively being mined or are abandoned pits. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

**Udipsamments**

*Extent:* 15 to 30 percent of the unit  
*Geomorphic setting:* Stream terraces, outwash plains, and moraines  
*Parent material:* Outwash  
*General description:* Udipsamments are areas of soil that support plant growth. They consist of areas of the pits that have been reclaimed or abandoned. Because of the variability of this component,

interpretations for specific uses are not available. Onsite investigation is needed.

**L2B—Malardi-Hawick complex, 1 to 6 percent slopes*****Component Description*****Malardi and similar soils**

*Extent:* 60 to 80 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Backslopes and summits  
*Slope range:* 1 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.3 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 15 inches; sandy loam  
 2Bt—15 to 29 inches; loamy coarse sand  
 2C—29 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 10 to 30 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Shoulders  
*Slope range:* 3 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent

*Typical profile:*

Ap—0 to 7 inches; sandy loam  
 Bw—7 to 11 inches; gravelly loamy coarse sand  
 C—11 to 80 inches; gravelly coarse sand

**Rasset**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.1 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap,A—0 to 15 inches; sandy loam  
 Bt—15 to 28 inches; sandy loam  
 2BC—28 to 36 inches; loamy sand  
 2C—36 to 80 inches; sand

**Eden Prairie**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Backslopes and summits  
*Slope range:* 1 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 16 inches; sandy loam  
 2Bt—16 to 26 inches; loamy sand  
 2Bw,2C1,2C2—26 to 80 inches; sand

**L2C—Malardi-Hawick complex, 6 to 12 percent slopes*****Component Description*****Malardi and similar soils**

*Extent:* 60 to 90 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Backslopes and summits  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.3 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 15 inches; sandy loam  
 2Bt—15 to 29 inches; loamy coarse sand  
 2C—29 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 10 to 30 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Shoulders  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 Ap—0 to 7 inches; sandy loam  
 Bw—7 to 11 inches; gravelly loamy coarse sand  
 C—11 to 80 inches; gravelly coarse sand



**Tomall**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A,AB—0 to 33 inches; loam  
 Bw—33 to 42 inches; sandy loam  
 2Bw—42 to 47 inches; loamy coarse sand  
 2C—47 to 80 inches; gravelly loamy coarse sand

**Crowfork**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 11 inches; loamy sand  
 E—11 to 20 inches; loamy fine sand  
 E&Bt—20 to 76 inches; loamy sand  
 C—76 to 80 inches; sand

**L2D—Malardi-Hawick complex, 12 to 18 percent slopes****Component Description****Malardi and similar soils**

*Extent:* 50 to 90 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Summits and backslopes  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.8 inches  
*Content of organic matter in the upper 10 inches:* 2.8 percent  
*Typical profile:*  
 Ap—0 to 9 inches; sandy loam  
 Bt—9 to 14 inches; sandy loam  
 2Bt—14 to 21 inches; gravelly loamy coarse sand  
 2C—21 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 10 to 40 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Shoulders  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 Ap—0 to 7 inches; sandy loam  
 Bw—7 to 11 inches; gravelly loamy coarse sand  
 C—11 to 80 inches; gravelly coarse sand

**Tomall**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)

*Wet soil moisture status is lowest (depth, months):*  
More than 6.7 feet (January, February, March, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 33 inches; loam

Bw—33 to 42 inches; sandy loam

2Bw—42 to 47 inches; loamy coarse sand

2C—47 to 80 inches; gravelly loamy coarse sand

**Crowfork**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 11 inches; loamy sand

E—11 to 20 inches; loamy fine sand

E&Bt—20 to 76 inches; loamy sand

C—76 to 80 inches; sand

**L2E—Malardi-Hawick complex, 18 to 35 percent slopes****Component Description****Malardi and similar soils**

*Extent:* 50 to 90 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 18 to 35 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.8 inches

*Content of organic matter in the upper 10 inches:* 4.6 percent

*Typical profile:*

A—0 to 9 inches; sandy loam

Bt—9 to 14 inches; sandy loam

2Bt—14 to 21 inches; gravelly loamy coarse sand

2C—21 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 10 to 40 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Shoulders

*Slope range:* 18 to 35 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.2 inches

*Content of organic matter in the upper 10 inches:* 1.9 percent

*Typical profile:*

A—0 to 7 inches; sandy loam

Bw—7 to 11 inches; gravelly loamy coarse sand

C—11 to 80 inches; gravelly coarse sand

**Tomall**

*Extent:* 5 to 25 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Swales  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A,AB—0 to 33 inches; loam  
 Bw—33 to 42 inches; sandy loam  
 2Bw—42 to 47 inches; loamy coarse sand  
 2C—47 to 80 inches; gravelly loamy coarse sand

**L3A—Rasset sandy loam, 0 to 2 percent slopes*****Component Description*****Rasset and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Flats  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.1 inches  
*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam  
 Bt—15 to 28 inches; sandy loam  
 2BC—28 to 36 inches; loamy sand  
 2C—36 to 80 inches; sand

**Malardi**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.3 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 15 inches; sandy loam  
 2Bt—15 to 29 inches; loamy coarse sand  
 2C—29 to 80 inches; gravelly sand

**Eden Prairie**

*Extent:* 0 to 5 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 16 inches; sandy loam

2Bt—16 to 26 inches; loamy sand  
2Bw,2C1,2C2—26 to 80 inches; sand

### **L3B—Rasset sandy loam, 2 to 6 percent slopes**

#### ***Component Description***

##### **Rasset and similar soils**

*Extent:* 75 to 100 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Summits and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.1 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
Ap,A—0 to 15 inches; sandy loam  
Bt—15 to 28 inches; sandy loam  
2BC—28 to 36 inches; loamy sand  
2C—36 to 80 inches; sand

##### **Malardi**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Backslopes and summits  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.3 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam  
2Bt—15 to 29 inches; loamy coarse sand  
2C—29 to 80 inches; gravelly sand

### **Eden Prairie**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Backslopes and summits  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
Ap—0 to 10 inches; sandy loam  
Bt—10 to 16 inches; sandy loam  
2Bt—16 to 26 inches; loamy sand  
2Bw,2C1,2C2—26 to 80 inches; sand

### **L3C—Rasset sandy loam, 6 to 12 percent slopes**

#### ***Component Description***

##### **Rasset and similar soils**

*Extent:* 70 to 100 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 6.1 inches  
*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam  
 Bt—15 to 28 inches; sandy loam  
 2BC—28 to 36 inches; loamy sand  
 2C—36 to 80 inches; sand

**Malardi**

*Extent:* 0 to 30 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam  
 Bt—10 to 15 inches; sandy loam  
 2Bt—15 to 29 inches; loamy coarse sand  
 2C—29 to 80 inches; gravelly sand

**Tomall**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)

*Wet soil moisture status is lowest (depth, months):*  
 More than 6.7 feet (January, February, March, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 33 inches; loam  
 Bw—33 to 42 inches; sandy loam  
 2Bw—42 to 47 inches; loamy coarse sand  
 2C—47 to 80 inches; gravelly loamy coarse sand

**Eden Prairie**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Backslopes and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam  
 Bt—10 to 16 inches; sandy loam  
 2Bt—16 to 26 inches; loamy sand  
 2Bw,2C1,2C2—26 to 80 inches; sand

**L4B—Crowfork loamy sand, 1 to 6 percent slopes*****Component Description*****Crowfork and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Summits and backslopes

*Slope range:* 1 to 6 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches



*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 11 inches; loamy sand  
E—11 to 20 inches; loamy fine sand  
E&Bt—20 to 76 inches; loamy sand  
C—76 to 80 inches; sand

### **Eden Prairie**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Flats and swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam  
Bt—10 to 16 inches; sandy loam  
2Bt—16 to 26 inches; loamy sand  
2Bw,2C1,2C2—26 to 80 inches; sand

### **L4C—Crowfork loamy sand, 6 to 12 percent slopes**

#### ***Component Description***

#### **Crowfork and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Summits and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 11 inches; loamy sand  
E—11 to 20 inches; loamy fine sand  
E&Bt—20 to 76 inches; loamy sand  
C—76 to 80 inches; sand

### **Eden Prairie**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam  
Bt—10 to 16 inches; sandy loam  
2Bt—16 to 26 inches; loamy sand  
2Bw,2C1,2C2—26 to 80 inches; sand

### **L4D—Crowfork loamy sand, 12 to 18 percent slopes**

#### ***Component Description***

#### **Crowfork and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Backslopes and summits

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 11 inches; loamy sand

E—11 to 20 inches; loamy fine sand

E&Bt—20 to 76 inches; loamy sand

C—76 to 80 inches; sand

### **Eden Prairie**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 16 inches; sandy loam

2Bt—16 to 26 inches; loamy sand

2Bw,2C1,2C2—26 to 80 inches; sand

## **L6A—Biscay loam, 0 to 2 percent slopes**

### **Component Description**

#### **Biscay and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1,A2—0 to 20 inches; loam

Bg—20 to 28 inches; loam

2BCg—28 to 36 inches; gravelly loam

2Cg—36 to 60 inches; stratified very gravelly coarse sand to loamy sand

### **Biscay, depressional**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 7.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1,A2—0 to 23 inches; loam

Bg—23 to 28 inches; loam

2BCg—28 to 36 inches; gravelly loam

2Cg—36 to 60 inches; stratified very gravelly coarse sand to loamy sand

### **Mayer**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Rims of depressions

*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.3 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A1,A2—0 to 18 inches; loam  
 Bg—18 to 33 inches; sandy clay loam  
 2C—33 to 80 inches; gravelly coarse sand

## **L7A—Biscay loam, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Biscay, depressional, and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 7.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A1,A2—0 to 23 inches; loam

Bg—23 to 28 inches; loam  
 2BCg—28 to 36 inches; gravelly loam  
 2Cg—36 to 60 inches; stratified very gravelly coarse sand to loamy sand

#### **Biscay**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Rims of depressions  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A1,A2—0 to 20 inches; loam  
 Bg—20 to 28 inches; loam  
 2BCg—28 to 36 inches; gravelly loam  
 2Cg—36 to 60 inches; stratified very gravelly coarse sand to loamy sand

#### **Mayer**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Rims of depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.3 inches  
*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1,A2—0 to 18 inches; loam  
 Bg—18 to 33 inches; sandy clay loam  
 2C—33 to 80 inches; gravelly coarse sand

## **L8A—Darfur sandy loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Darfur and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.6 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 16 inches; sandy loam  
 Bg—16 to 32 inches; sandy clay loam  
 Cg—32 to 80 inches; stratified sand to loamy fine sand to fine sandy loam

#### **Dassel**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 7.7 inches

*Content of organic matter in the upper 10 inches:* 8 percent

*Typical profile:*

A1,A2—0 to 14 inches; fine sandy loam  
 Bg—14 to 31 inches; stratified loamy fine sand to fine sandy loam  
 Cg—31 to 80 inches; stratified coarse sand to loamy sand

## **L9A—Minnetonka silty clay loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Minnetonka and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Moraines and lake plains  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Lacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.8 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 13 inches; silty clay loam  
 Btg—13 to 35 inches; silty clay  
 Cg—35 to 60 inches; silty clay loam

#### **Depressional soil**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Lake plains and moraines  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Silty clay loam



*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Lacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 10.8 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 16 inches; silty clay loam  
 Btg—16 to 42 inches; silty clay  
 Cg—42 to 60 inches; silty clay loam

## **L10B—Kasota silty clay loam, 1 to 6 percent slopes**

### ***Component Description***

#### **Kasota and similar soils**

*Extent:* 70 to 90 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Summits and backslopes  
*Slope range:* 1 to 6 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Glaciolacustrine sediments over outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.9 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap—0 to 10 inches; silty clay loam  
 Bt—10 to 28 inches; silty clay  
 2BC—28 to 32 inches; sand  
 2C—32 to 60 inches; coarse sand

#### **Eden Prairie**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Shoulders  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.7 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 16 inches; sandy loam  
 2Bt—16 to 26 inches; loamy sand  
 2Bw,2C1,2C2—26 to 80 inches; sand

#### **Wet soil in swales**

*Extent:* 0 to 15 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Glaciolacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.8 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 Ap,A—0 to 13 inches; silty clay loam  
 Btg—13 to 35 inches; silty clay  
 Cg—35 to 60 inches; silty clay loam  
 2Cg—60 to 80 inches; stratified very gravelly coarse sand to loamy sand



## **L11B—Grays very fine sandy loam, 2 to 8 percent slopes**

### ***Component Description***

#### **Grays and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Hills on outwash plains  
*Position on the landform:* Backslopes and summits  
*Slope range:* 2 to 8 percent  
*Texture of the surface layer:* Very fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, March, June, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 1.5 percent  
*Typical profile:*  
 Ap—0 to 7 inches; very fine sandy loam  
 Bt—7 to 25 inches; silty clay loam  
 C—25 to 60 inches; stratified very fine sandy loam to silt loam

#### **Kasota**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on outwash plains  
*Position on the landform:* Summits and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Glaciolacustrine sediments over outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.9 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap—0 to 10 inches; silty clay loam

Bt—10 to 28 inches; silty clay  
 2BC—28 to 32 inches; sand  
 2C—32 to 60 inches; coarse sand

#### **Crowfork**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on outwash plains  
*Position on the landform:* Summits and shoulders  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 11 inches; loamy sand  
 E—11 to 20 inches; loamy fine sand  
 E&Bt—20 to 76 inches; loamy sand  
 C—76 to 80 inches; sand

## **L12A—Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes, frequently flooded**

### ***Component Description***

#### **Muskego, frequently flooded, and similar soils**

*Extent:* 0 to 100 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Flats  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material over coprogenous earth  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 1 foot (January, February, March, August, September, October)  
*Ponding is deepest (depth, months):* 2 feet (May, June)

*Available water capacity to a depth of 60 inches:* 19.4 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa1—0 to 9 inches; muck

Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

#### **Blue Earth, frequently flooded, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Coprogenous earth

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 1 foot (January, February, March, August, September, October)

*Ponding is deepest (depth, months):* 2 feet (May, June)

*Available water capacity to a depth of 60 inches:* 12.6 inches

*Content of organic matter in the upper 10 inches:* 17.5 percent

*Typical profile:*

A—0 to 50 inches; silt loam

Cg—50 to 60 inches; silt loam

#### **Houghton, frequently flooded, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 1 foot (January, February, March, August, September, October)

*Ponding is deepest (depth, months):* 2 feet (May, June)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 84.5 percent

*Typical profile:*

Oa—0 to 80 inches; muck

#### **Oshawa, frequently flooded**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Oxbows

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 1 foot (January, February, March, August, September, October)

*Ponding is deepest (depth, months):* 2 feet (May, June)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7 percent

*Typical profile:*

A—0 to 12 inches; silt loam

Cg—12 to 60 inches; silty clay loam

### **L13A—Klossner muck, depressional, 0 to 1 percent slopes**

#### ***Component Description***

#### **Klossner, drained, and similar soils**

*Extent:* 65 to 85 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 17.7 inches

*Content of organic matter in the upper 10 inches:* 50 percent

*Typical profile:*

Op,Oa—0 to 26 inches; muck

2A1—26 to 36 inches; mucky silty clay loam

2A2—36 to 48 inches; silty clay loam

2Cg—48 to 80 inches; loam

### **Mineral soil, drained**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; clay loam

Cg—45 to 80 inches; loam

### **Houghton, drained**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Op—0 to 10 inches; muck

Oa—10 to 80 inches; muck

## **L14A—Houghton muck, depressional, 0 to 1 percent slopes**

### **Component Description**

#### **Houghton, drained, and similar soils**

*Extent:* 65 to 85 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Op—0 to 10 inches; muck

Oa—10 to 80 inches; muck

#### **Klossner, drained**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 17.7 inches

*Content of organic matter in the upper 10 inches:* 50 percent

*Typical profile:*

Op,Oa—0 to 26 inches; muck

2A1—26 to 36 inches; mucky silty clay loam

2A2—36 to 48 inches; silty clay loam

2Cg—48 to 80 inches; loam

#### **Mineral soil, drained**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; clay loam

Cg—45 to 80 inches; loam

### **L15A—Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes**

#### **Component Description**

##### **Klossner, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding:* None

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 0.5 foot (August)

*Ponding is deepest (depth, months):* 3 feet (March, April, May)

*Available water capacity to a depth of 60 inches:* 17.4 inches

*Content of organic matter in the upper 10 inches:* 42.5 percent

*Typical profile:*

Oa—0 to 26 inches; muck

2A1—26 to 33 inches; silt loam

2A2—33 to 40 inches; loam

2Cg—40 to 80 inches; loam

##### **Okoboji, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Mucky silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium or lacustrine sediments over till

*Flooding:* None

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 0.5 foot (August)

*Ponding is deepest (depth, months):* 3 feet (March, April, May)

*Available water capacity to a depth of 60 inches:* 11.9 inches

*Content of organic matter in the upper 10 inches:* 14 percent



*Typical profile:*

A1—0 to 10 inches; mucky silty clay loam

A2—10 to 52 inches; silty clay loam

Bg—52 to 60 inches; silty clay loam

**Glencoe, ponded, and similar soils***Extent:* 0 to 100 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Depressions*Slope range:* 0 to 1 percent*Texture of the surface layer:* Silty clay loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Very poorly drained*Parent material:* Till*Flooding:* None*Wet soil moisture status:* At the surface all year*Ponding is shallowest (depth, months):* 0.5 foot (August)*Ponding is deepest (depth, months):* 3 feet (March, April, May)*Available water capacity to a depth of 60 inches:* 11.4 inches*Content of organic matter in the upper 10 inches:* 7 percent*Typical profile:*

A—0 to 42 inches; silty clay loam

Bg—42 to 50 inches; clay loam

Cg—50 to 60 inches; loam

**Houghton, ponded***Extent:* 0 to 20 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Depressions*Slope range:* 0 to 1 percent*Texture of the surface layer:* Muck*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Very poorly drained*Parent material:* Organic material*Flooding:* None*Wet soil moisture status:* At the surface all year*Ponding is shallowest (depth, months):* 0.5 foot (August)*Ponding is deepest (depth, months):* 3 feet (March, April, May)*Available water capacity to a depth of 60 inches:* 23.9 inches*Content of organic matter in the upper 10 inches:* 84.5 percent*Typical profile:*

Oa—0 to 80 inches; muck

**L16A—Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes*****Component Description*****Muskego, ponded, and similar soils***Extent:* 0 to 100 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Depressions*Slope range:* 0 to 1 percent*Texture of the surface layer:* Muck*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Very poorly drained*Parent material:* Organic material over coprogenous earth*Flooding:* None*Wet soil moisture status:* At the surface all year*Ponding is shallowest (depth, months):* 0.5 foot (August)*Ponding is deepest (depth, months):* 3 feet (March, April, May)*Available water capacity to a depth of 60 inches:* 19.4 inches*Content of organic matter in the upper 10 inches:* 75 percent*Typical profile:*

Oa1—0 to 9 inches; muck

Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

**Blue Earth, ponded, and similar soils***Extent:* 0 to 100 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Depressions*Slope range:* 0 to 1 percent*Texture of the surface layer:* Silt loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Very poorly drained*Parent material:* Coprogenous earth*Flooding:* None*Wet soil moisture status:* At the surface all year*Ponding is shallowest (depth, months):* 0.5 foot (August)*Ponding is deepest (depth, months):* 3 feet (March, April, May)*Available water capacity to a depth of 60 inches:* 12.6 inches*Content of organic matter in the upper 10 inches:* 17.5 percent



*Typical profile:*

A—0 to 50 inches; silt loam

Cg—50 to 60 inches; silt loam

**Houghton, ponded, and similar soils***Extent:* 0 to 100 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Depressions*Slope range:* 0 to 1 percent*Texture of the surface layer:* Muck*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Very poorly drained*Parent material:* Organic material*Flooding:* None*Wet soil moisture status:* At the surface all year*Ponding is shallowest (depth, months):* 0.5 foot (August)*Ponding is deepest (depth, months):* 3 feet (March, April, May)*Available water capacity to a depth of 60 inches:* 23.9 inches*Content of organic matter in the upper 10 inches:* 84.5 percent*Typical profile:*

Oa—0 to 80 inches; muck

**Klossner, ponded***Extent:* 0 to 20 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Depressions*Slope range:* 0 to 1 percent*Texture of the surface layer:* Muck*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Very poorly drained*Parent material:* Organic material over till*Flooding:* None*Wet soil moisture status:* At the surface all year*Ponding is shallowest (depth, months):* 0.5 foot (August)*Ponding is deepest (depth, months):* 3 feet (March, April, May)*Available water capacity to a depth of 60 inches:* 17.4 inches*Content of organic matter in the upper 10 inches:* 42.5 percent*Typical profile:*

Oa—0 to 26 inches; muck

2A1—26 to 33 inches; silt loam

2A2—33 to 40 inches; loam

2Cg—40 to 80 inches; loam

**L17B—Angus-Malardi complex, 2 to 6 percent slopes*****Component Description*****Angus and similar soils***Extent:* 40 to 75 percent of the unit*Geomorphic setting:* Hills on moraines*Position on the landform:* Summits and backslopes*Slope range:* 2 to 5 percent*Texture of the surface layer:* Loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Well drained*Parent material:* Till*Flooding:* None*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)*Ponding:* None*Available water capacity to a depth of 60 inches:* 10.5 inches*Content of organic matter in the upper 10 inches:* 2.5 percent*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam

BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

**Malardi and similar soils***Extent:* 20 to 40 percent of the unit*Geomorphic setting:* Hills on moraines*Position on the landform:* Shoulders and summits*Slope range:* 2 to 6 percent*Texture of the surface layer:* Sandy loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Somewhat excessively drained*Parent material:* Outwash*Flooding:* None*Depth to wet soil moisture status:* More than 6.7 feet all year*Ponding:* None*Available water capacity to a depth of 60 inches:* 4.3 inches*Content of organic matter in the upper 10 inches:* 3 percent*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam  
 2Bt—15 to 29 inches; loamy coarse sand  
 2C—29 to 80 inches; gravelly sand

### **Moon**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits  
*Slope range:* 2 to 5 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.4 inches  
*Content of organic matter in the upper 10 inches:* 1.7 percent  
*Typical profile:*  
 Ap—0 to 8 inches; loamy fine sand  
 E—8 to 24 inches; loamy fine sand  
 2Bt—24 to 46 inches; sandy clay loam  
 2C—46 to 60 inches; loam

### **Cordova**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.6 inches  
*Content of organic matter in the upper 10 inches:* 5.5 percent  
*Typical profile:*  
 Ap,AB—0 to 13 inches; loam

Btg—13 to 33 inches; clay loam  
 Cg—33 to 80 inches; loam

## **L18A—Shields silty clay loam, 0 to 3 percent slopes**

### ***Component Description***

#### **Shields and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Glaciofluvial sediments and reworked till over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 1 foot (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.7 inches  
*Content of organic matter in the upper 10 inches:* 4.5 percent  
*Typical profile:*  
 Ap—0 to 8 inches; silty clay loam  
 BE,Btg—8 to 41 inches; silty clay  
 2Bk—41 to 80 inches; silty clay loam

#### **Lerdal**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and slight rises  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Glaciofluvial sediments and reworked till over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 1.6 feet (November)  
*Wet soil moisture status is lowest (depth, months):* 4.9 feet (February, August)  
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.1 inches

*Content of organic matter in the upper 10 inches:* 5.1 percent

*Typical profile:*

Ap—0 to 9 inches; silty clay loam

Bt,Btg—9 to 42 inches; silty clay

Bw,Bk—42 to 60 inches; loam

### **Mazaska**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Glaciofluvial sediments and reworked till over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap,A—0 to 15 inches; silty clay loam

Btg—15 to 42 inches; clay

Bkg—42 to 80 inches; loam

## **L19B—Moon loamy fine sand, 2 to 5 percent slopes**

### ***Component Description***

#### **Moon and similar soils**

*Extent:* 75 to 95 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):*

More than 5 feet (January, February, June, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4 inches

*Content of organic matter in the upper 10 inches:* 1.7 percent

*Typical profile:*

Ap—0 to 8 inches; loamy fine sand

E—8 to 24 inches; loamy fine sand

2Bt—24 to 46 inches; sandy clay loam

2C—46 to 60 inches; loam

### **Finchford**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes and backslopes

*Slope range:* 3 to 5 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.5 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand

Bw—18 to 30 inches; sand

C—30 to 60 inches; sand

## **L20B—Fedji loamy fine sand, silty substratum, 2 to 8 percent slopes**

### ***Component Description***

#### **Fedji, silty substratum, and similar soils**

*Extent:* 75 to 95 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 8 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash over glaciolacustrine sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
3.3 feet (May)

*Wet soil moisture status is lowest (depth, months):*  
More than 5 feet (January, February, June, July,  
August, September, October, November,  
December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.9  
inches

*Content of organic matter in the upper 10 inches:* 2.5  
percent

*Typical profile:*

Ap—0 to 10 inches; loamy fine sand  
Bw—10 to 30 inches; loamy fine sand  
2Bw—30 to 39 inches; silty clay loam  
2Bk—39 to 60 inches; silt loam

### **Finchford**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all  
year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.5  
inches

*Content of organic matter in the upper 10 inches:* 2  
percent

*Typical profile:*

Ap,A—0 to 18 inches; loamy sand  
Bw—18 to 30 inches; sand  
C—30 to 60 inches; sand

### **L21A—Canisteo loam, 0 to 2 percent slopes**

#### ***Component Description***

#### **Canisteo and similar soils**

*Extent:* 75 to 90 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and rims of  
depressions

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3  
feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.3  
inches

*Content of organic matter in the upper 10 inches:* 5.5  
percent

*Typical profile:*

Ap,A—0 to 17 inches; loam  
Bkg—17 to 36 inches; clay loam  
Cg—36 to 80 inches; loam

### **Cordova**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5  
feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6  
inches

*Content of organic matter in the upper 10 inches:* 5.5  
percent

*Typical profile:*

Ap,AB—0 to 13 inches; loam  
Btg—13 to 33 inches; clay loam  
Cg—33 to 80 inches; loam

### **Glencoe**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; loam

Cg—45 to 80 inches; loam

## **L22C2—Lester loam, morainic, 6 to 12 percent slopes, eroded**

### ***Component Description***

#### **Lester, eroded, and similar soils**

*Extent:* 60 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and shoulders

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 38 inches; clay loam

Bk—38 to 60 inches; loam

C—60 to 80 inches; loam

#### **Angus**

*Extent:* 10 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam

BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

#### **Terril**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam

C—63 to 80 inches; loam

#### **Hamel**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways



*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.6 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A,AB—0 to 24 inches; loam  
 Btg—24 to 46 inches; clay loam  
 Cg—46 to 80 inches; loam

## **L22D2—Lester loam, morainic, 12 to 18 percent slopes, eroded**

### ***Component Description***

#### **Lester, eroded, and similar soils**

*Extent:* 70 to 90 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and backslopes  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.5 inches  
*Content of organic matter in the upper 10 inches:* 1.6 percent  
*Typical profile:*  
 Ap—0 to 7 inches; loam  
 Bt—7 to 38 inches; clay loam  
 Bk—38 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Terril**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes

*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap,A1—0 to 27 inches; loam  
 A2,BA—27 to 40 inches; loam  
 Bw—40 to 63 inches; loam  
 C—63 to 80 inches; loam

#### **Hamel**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.6 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A,AB—0 to 24 inches; loam  
 Btg—24 to 46 inches; clay loam  
 Cg—46 to 80 inches; loam

#### **Ridgeton**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 8 to 14 percent  
*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.2 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap,A1—0 to 23 inches; loam  
 A2,AB—23 to 38 inches; loam  
 Bw—38 to 50 inches; loam  
 C—50 to 80 inches; loam

## **L22E—Lester loam, morainic, 18 to 25 percent slopes**

### ***Component Description***

#### **Lester, morainic, and similar soils**

*Extent:* 70 to 90 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Backslopes and shoulders  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 A—0 to 5 inches; loam  
 BE,Bt—5 to 34 inches; clay loam  
 Bk—34 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Terril**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 A1,A2—0 to 24 inches; loam  
 AB—24 to 37 inches; loam  
 Bw—37 to 57 inches; loam  
 C—57 to 80 inches; loam

#### **Hamel**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A1,A2—0 to 22 inches; loam  
 Btg—22 to 41 inches; clay loam  
 Cg—41 to 80 inches; loam

#### **Ridgeton**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 10 to 20 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 A1,A2,A3—0 to 32 inches; loam  
 Bw—32 to 40 inches; loam  
 C1,C2—40 to 80 inches; loam

## **L22F—Lester loam, morainic, 25 to 35 percent slopes**

### ***Component Description***

#### **Lester, morainic, and similar soils**

*Extent:* 70 to 90 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Backslopes and shoulders  
*Slope range:* 25 to 35 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 A—0 to 5 inches; loam  
 BE,Bt—5 to 34 inches; clay loam  
 Bk—34 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Terril**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 A1,A2—0 to 24 inches; loam  
 AB—24 to 37 inches; loam  
 Bw—37 to 57 inches; loam  
 C—57 to 80 inches; loam

#### **Ridgeton**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Backslopes and footslopes  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 A1,A2,A3—0 to 32 inches; loam  
 Bw—32 to 40 inches; loam  
 C1,C2—40 to 80 inches; loam

#### **Hamel**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Toeslopes  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A1,A2—0 to 22 inches; loam

Btg—22 to 41 inches; clay loam

Cg—41 to 80 inches; loam

## **L23A—Cordova loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Cordova and similar soils**

*Extent:* 80 to 95 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6 inches

*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap,AB—0 to 13 inches; loam

Btg—13 to 33 inches; clay loam

Cg—33 to 80 inches; loam

#### **Glencoe**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; loam

Cg—45 to 80 inches; loam

#### **Nessel**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.4 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

Ap—0 to 6 inches; loam

Bt—6 to 38 inches; clay loam

C—38 to 80 inches; loam

## **L24A—Glencoe loam, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Glencoe, depressional, and similar soils**

*Extent:* 85 to 100 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; loam

Cg—45 to 80 inches; loam

### **Cordova**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Rims of depressions

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6 inches

*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap,AB—0 to 13 inches; loam

Btg—13 to 33 inches; clay loam

Cg—33 to 80 inches; loam

## **L25A—Le Sueur loam, 1 to 3 percent slopes**

### ***Component Description***

#### **Le Sueur and similar soils**

*Extent:* 75 to 90 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A1,A2,AB—0 to 17 inches; loam

Bt—17 to 36 inches; clay loam

Bk—36 to 46 inches; loam

C—46 to 80 inches; loam

### **Cordova**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6 inches



*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap,AB—0 to 13 inches; loam

Btg—13 to 33 inches; clay loam

Cg—33 to 80 inches; loam

### **Angus**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam

BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

## **L26A—Shorewood silty clay loam, 0 to 3 percent slopes**

### ***Component Description***

#### **Shorewood and similar soils**

*Extent:* 70 to 90 percent of the unit

*Geomorphic setting:* Lake plains and moraines

*Position on the landform:* Slight rises

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Lacustrine sediments over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.2 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 17 inches; silty clay loam

Bt—17 to 39 inches; silty clay

2BCg,2Cg—39 to 60 inches; loam

### **Minnetonka**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Moraines and lake plains

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Lacustrine sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.8 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

Ap,A—0 to 13 inches; silty clay loam

Btg—13 to 35 inches; silty clay

Cg—35 to 60 inches; silty clay loam

### **Good Thunder**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines and lake plains

*Position on the landform:* Slight rises

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Lacustrine sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
2.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* 5.6  
feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.6  
inches  
*Content of organic matter in the upper 10 inches:* 5.5  
percent  
*Typical profile:*  
Ap,A—0 to 15 inches; silty clay loam  
Bt—15 to 32 inches; silty clay  
C—32 to 80 inches; silt loam

## **L26B—Shorewood silty clay loam, 3 to 6 percent slopes**

### ***Component Description***

#### **Shorewood and similar soils**

*Extent:* 85 to 95 percent of the unit  
*Geomorphic setting:* Hills on moraines; hills on lake  
plains  
*Position on the landform:* Summits and backslopes  
*Slope range:* 3 to 6 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60  
inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Lacustrine sediments over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):*  
More than 5 feet (January, February, July, August,  
September, October)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.2  
inches  
*Content of organic matter in the upper 10 inches:* 6  
percent  
*Typical profile:*  
Ap,A,AB—0 to 17 inches; silty clay loam  
Bt—17 to 39 inches; silty clay  
2BCg,2Cg—39 to 60 inches; loam

#### **Good Thunder**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Lake plains and moraines  
*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 3 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Moderately well drained  
*Parent material:* Lacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
2.5 feet (April, May)  
*Wet soil moisture status is lowest (depth, months):* 5.6  
feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.6  
inches  
*Content of organic matter in the upper 10 inches:* 5.5  
percent  
*Typical profile:*  
Ap,A—0 to 15 inches; silty clay loam  
Bt—15 to 32 inches; silty clay  
C—32 to 80 inches; silt loam

#### **Minnetonka**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines and lake plains  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Silty clay loam  
*Depth to restrictive feature:* Very deep (more than 60  
inches)  
*Drainage class:* Poorly drained  
*Parent material:* Lacustrine sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5  
feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.8  
inches  
*Content of organic matter in the upper 10 inches:* 5  
percent  
*Typical profile:*  
Ap,A—0 to 13 inches; silty clay loam  
Btg—13 to 35 inches; silty clay  
Cg—35 to 60 inches; silty clay loam

## **L26C2—Shorewood silty clay loam, 6 to 12 percent slopes, eroded**

### ***Component Description***

#### **Shorewood, eroded, and similar soils**

*Extent:* 80 to 100 percent of the unit  
*Geomorphic setting:* Hills on moraines; hills on lake  
plains  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Lacustrine sediments over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, March, June, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.2 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap,A,AB—0 to 17 inches; silty clay loam

Bt—17 to 39 inches; silty clay

2BCg,2Cg—39 to 60 inches; loam

### **Minnetonka**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Lake plains and moraines

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Lacustrine sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.8 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

Ap,A—0 to 13 inches; silty clay loam

Btg—13 to 35 inches; silty clay

Cg—35 to 60 inches; silty clay loam

### **L27A—Suckercreek loam, 0 to 2 percent slopes, frequently flooded**

#### ***Component Description***

#### **Suckercreek, frequently flooded, and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Drainageways

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.9 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A—0 to 22 inches; loam

Cg—22 to 80 inches; loamy fine sand

### **Suckercreek, occasionally flooded**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.2 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A—0 to 12 inches; fine sandy loam

Cg—12 to 80 inches; fine sandy loam

### **Hanlon, occasionally flooded**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 3.9 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.2 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
 A1,A2—0 to 40 inches; fine sandy loam  
 A3—40 to 63 inches; fine sandy loam  
 Bw—63 to 70 inches; sandy loam  
 Cg—70 to 80 inches; stratified sand to loamy fine sand to fine sandy loam

## **L28A—Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded**

### ***Component Description***

#### **Suckercreek, occasionally flooded, and similar soils**

*Extent:* 70 to 100 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Flats  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.2 inches

*Content of organic matter in the upper 10 inches:* 5 percent

#### *Typical profile:*

A—0 to 12 inches; fine sandy loam

Cg—12 to 80 inches; fine sandy loam

#### **Suckercreek, frequently flooded**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Drainageways  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.9 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 A—0 to 22 inches; loam  
 Cg—22 to 80 inches; loamy fine sand

#### **Hanlon, occasionally flooded**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Flats and slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 3.9 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.2 inches



*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

A1,A2—0 to 40 inches; fine sandy loam

A3—40 to 63 inches; fine sandy loam

Bw—63 to 70 inches; sandy loam

Cg—70 to 80 inches; stratified sand to loamy fine sand to fine sandy loam

## **L29A—Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded**

### ***Component Description***

#### **Hanlon, occasionally flooded, and similar soils**

*Extent:* 75 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats and slight rises

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 3.9 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.2 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

A1,A2—0 to 40 inches; fine sandy loam

A3—40 to 63 inches; fine sandy loam

Bw—63 to 70 inches; sandy loam

Cg—70 to 80 inches; stratified sand to loamy fine sand to fine sandy loam

#### **Suckercreek, occasionally flooded**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.2 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A—0 to 12 inches; fine sandy loam

Cg—12 to 80 inches; fine sandy loam

#### **Suckercreek, frequently flooded**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Drainageways

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.9 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A—0 to 22 inches; loam

Cg—22 to 80 inches; loamy fine sand

## **L30A—Medo soils, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Medo, surface drained, and similar soils**

*Extent:* 50 to 100 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Depressions



*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 14.3 inches  
*Content of organic matter in the upper 10 inches:* 70 percent  
*Typical profile:*  
 Oa—0 to 27 inches; muck  
 2A—27 to 35 inches; mucky loam  
 2Bg—35 to 39 inches; sandy clay loam  
 2Cg—39 to 80 inches; gravelly loamy coarse sand

#### **Medo, drained, and similar soils**

*Extent:* 0 to 40 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material over outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)  
*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (April)  
*Available water capacity to a depth of 60 inches:* 14.3 inches  
*Content of organic matter in the upper 10 inches:* 70 percent  
*Typical profile:*  
 Op,Oa—0 to 27 inches; muck  
 2A—27 to 35 inches; mucky loam  
 2Bg—35 to 39 inches; sandy clay loam

2Cg—39 to 80 inches; gravelly loamy coarse sand

#### **Mineral soil, drained**

*Extent:* 5 to 25 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)  
*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (April)  
*Available water capacity to a depth of 60 inches:* 6.8 inches  
*Content of organic matter in the upper 10 inches:* 8 percent  
*Typical profile:*  
 Ap,A3—0 to 23 inches; fine sandy loam  
 Bg—23 to 31 inches; stratified loamy fine sand to fine sandy loam  
 2Cg—31 to 60 inches; stratified coarse sand to loamy sand

### **L31A—Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes**

#### **Component Description**

#### **Medo, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material over outwash  
*Flooding:* None  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 0.5 foot (August)

*Ponding is deepest (depth, months):* 3 feet (March, April, May)  
*Available water capacity to a depth of 60 inches:* 12.2 inches  
*Content of organic matter in the upper 10 inches:* 70 percent  
*Typical profile:*  
 Oa—0 to 20 inches; muck  
 2A—20 to 34 inches; loam  
 2AC,2Cg—34 to 60 inches; sand

#### **Dassel, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 0.5 foot (August)  
*Ponding is deepest (depth, months):* 3 feet (March, April, May)  
*Available water capacity to a depth of 60 inches:* 6.8 inches  
*Content of organic matter in the upper 10 inches:* 8 percent  
*Typical profile:*  
 A1,A3—0 to 23 inches; fine sandy loam  
 Bg—23 to 31 inches; stratified loamy fine sand to fine sandy loam  
 2Cg—31 to 60 inches; stratified coarse sand to loamy sand

#### **Biscay, ponded, and similar soils**

*Extent:* 0 to 100 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Outwash  
*Flooding:* None  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 0.5 foot (August)

*Ponding is deepest (depth, months):* 3 feet (March, April, May)  
*Available water capacity to a depth of 60 inches:* 6.9 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A1,AB—0 to 24 inches; loam  
 Bg—24 to 29 inches; loam  
 2BCg,2Cg—29 to 60 inches; stratified very gravelly coarse sand to loamy sand

#### **Houghton, ponded**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Outwash plains and stream terraces  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material  
*Flooding:* None  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 0.5 foot (August)  
*Ponding is deepest (depth, months):* 3 feet (March, April, May)  
*Available water capacity to a depth of 60 inches:* 23.9 inches  
*Content of organic matter in the upper 10 inches:* 84.5 percent  
*Typical profile:*  
 Oa—0 to 80 inches; muck

#### **Muskego, ponded**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material over coprogenous earth  
*Flooding:* None  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 0.5 foot (August)  
*Ponding is deepest (depth, months):* 3 feet (March, April, May)

*Available water capacity to a depth of 60 inches:* 19.4 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa1—0 to 9 inches; muck

Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

### **L32D—Hawick loamy sand, 12 to 18 percent slopes**

#### ***Component Description***

##### **Hawick and similar soils**

*Extent:* 70 to 100 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Backslopes, shoulders, and summits

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.3 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

A—0 to 11 inches; loamy sand

Bw—11 to 15 inches; loamy sand

C—15 to 80 inches; stratified gravelly coarse sand to sand

##### **Crowfork**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Backslopes, summits, and shoulders

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

A—0 to 11 inches; loamy sand

E—11 to 19 inches; loamy fine sand

E&Bt—19 to 54 inches; loamy sand

C—54 to 60 inches; sand

##### **Tomall**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Footslopes and toeslopes

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)

*Wet soil moisture status is lowest (depth, months):*

More than 6.7 feet (January, February, March, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A,AB—0 to 33 inches; loam

Bw—33 to 42 inches; sandy loam

2Bw—42 to 47 inches; loamy coarse sand

2C—47 to 80 inches; gravelly loamy coarse sand

### **L32F—Hawick loamy sand, 18 to 40 percent slopes**

#### ***Component Description***

##### **Hawick and similar soils**

*Extent:* 70 to 100 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Summits, shoulders, and backslopes

*Slope range:* 18 to 40 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.3 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

A—0 to 11 inches; loamy sand

Bw—11 to 15 inches; loamy sand

C—15 to 80 inches; stratified gravelly coarse sand to sand

### **Crowfork**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Shoulders, summits, and backslopes

*Slope range:* 18 to 40 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

A—0 to 11 inches; loamy sand

E—11 to 19 inches; loamy fine sand

E&Bt—19 to 54 inches; loamy sand

C—54 to 60 inches; sand

### **Tomall**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Footslopes and toeslopes

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March,

July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A,AB—0 to 33 inches; loam

Bw—33 to 42 inches; sandy loam

2Bw—42 to 47 inches; loamy coarse sand

2C—47 to 80 inches; gravelly loamy coarse sand

## **L35A—Lerdal loam, 1 to 3 percent slopes**

### ***Component Description***

#### **Lerdal and similar soils**

*Extent:* 75 to 85 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Glaciofluvial sediments and reworked till over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.6 feet (November)

*Wet soil moisture status is lowest (depth, months):* 4.9 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.2 inches

*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

Bt,Btg—13 to 47 inches; clay loam

Bk—47 to 60 inches; loam

#### **Mazaska**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Glaciofluvial sediments and reworked till over till



*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.6  
 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.5  
 inches  
*Content of organic matter in the upper 10 inches:* 5.5  
 percent  
*Typical profile:*  
 Ap,A—0 to 15 inches; silty clay loam  
 Btg—15 to 42 inches; clay  
 Bkg—42 to 80 inches; loam

### **Cordova**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60  
 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5  
 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.6  
 inches  
*Content of organic matter in the upper 10 inches:* 5.5  
 percent  
*Typical profile:*  
 Ap,AB—0 to 13 inches; loam  
 Btg—13 to 33 inches; clay loam  
 Cg—33 to 80 inches; loam

### **Le Sueur**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and slight rises  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60  
 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
 More than 6.7 feet (February, August)

*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11  
 inches  
*Content of organic matter in the upper 10 inches:* 5  
 percent  
*Typical profile:*  
 A1,A2,AB—0 to 17 inches; loam  
 Bt—17 to 36 inches; clay loam  
 Bk—36 to 46 inches; loam  
 C—46 to 80 inches; loam

## **L36A—Hamel, overwash-Hamel complex, 1 to 4 percent slopes**

### ***Component Description***

#### **Hamel, overwash, and similar soils**

*Extent:* 40 to 60 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Drainageways and swales  
*Slope range:* 1 to 4 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60  
 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5  
 feet (August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.8  
 inches  
*Content of organic matter in the upper 10 inches:* 3.5  
 percent  
*Typical profile:*  
 Ap—0 to 13 inches; loam  
 A—13 to 29 inches; clay loam  
 Btg—29 to 50 inches; clay loam  
 Cg—50 to 80 inches; loam

#### **Hamel and similar soils**

*Extent:* 30 to 55 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Drainageways and swales  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60  
 inches)  
*Drainage class:* Poorly drained



*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3  
feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.6  
inches

*Content of organic matter in the upper 10 inches:* 6  
percent

*Typical profile:*

Ap,A,AB—0 to 24 inches; loam

Btg—24 to 46 inches; clay loam

Cg—46 to 80 inches; loam

### **Terril**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 6.7 feet (January, February, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4  
inches

*Content of organic matter in the upper 10 inches:* 4  
percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam

C—63 to 80 inches; loam

### **Glencoe**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At  
the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2  
feet (February, August)

*Ponding does not occur (months):* January, February,  
May, June, July, August, September, October,  
November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.1  
inches

*Content of organic matter in the upper 10 inches:* 7.5  
percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; loam

Cg—45 to 80 inches; loam

## **L37B—Angus loam, morainic, 2 to 5 percent slopes**

### ***Component Description***

#### **Angus, morainic, and similar soils**

*Extent:* 50 to 90 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 6.7 feet (January, February, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5  
inches

*Content of organic matter in the upper 10 inches:* 2.5  
percent

*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam

BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

#### **Angus, eroded**

*Extent:* 5 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders  
*Slope range:* 2 to 5 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.5 inches  
*Content of organic matter in the upper 10 inches:* 1.8 percent  
*Typical profile:*  
     Ap—0 to 8 inches; loam  
     Bt—8 to 35 inches; clay loam  
     Bk—35 to 58 inches; loam  
     C—58 to 80 inches; loam

#### **Le Sueur**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and slight rises  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
     A1,A2,AB—0 to 17 inches; loam  
     Bt—17 to 36 inches; clay loam  
     Bk—36 to 46 inches; loam  
     C—46 to 80 inches; loam

#### **Cordova**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.6 inches  
*Content of organic matter in the upper 10 inches:* 5.5 percent  
*Typical profile:*  
     Ap,AB—0 to 13 inches; loam  
     Btg—13 to 33 inches; clay loam  
     Cg—33 to 80 inches; loam

### **L38A—Rushriver very fine sandy loam, 0 to 2 percent slopes, occasionally flooded**

#### ***Component Description***

#### **Rushriver, occasionally flooded, and similar soils**

*Extent:* 70 to 85 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Flats and swales  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Very fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
     A—0 to 46 inches; very fine sandy loam  
     C—46 to 80 inches; stratified coarse sand to silt loam

**Oshawa, frequently flooded**

*Extent:* 10 to 20 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Oxbows and swales  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Silt loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)  
*Wet soil moisture status:* At the surface all year  
*Ponding is shallowest (depth, months):* 1 foot (January, February, March, August, September, October)  
*Ponding is deepest (depth, months):* 2 feet (May, June)  
*Available water capacity to a depth of 60 inches:* 11.1 inches  
*Content of organic matter in the upper 10 inches:* 7 percent  
*Typical profile:*  
 A—0 to 12 inches; silt loam  
 Cg—12 to 60 inches; silty clay loam

**Minneiska, occasionally flooded**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.7 inches  
*Content of organic matter in the upper 10 inches:* 3.5 percent  
*Typical profile:*  
 Ap—0 to 10 inches; fine sandy loam  
 C—10 to 60 inches; stratified sand to silt loam

**Alganssee, occasionally flooded**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 A—0 to 6 inches; loamy sand  
 C—6 to 60 inches; stratified sand to loam

**L39A—Minneiska fine sandy loam, 0 to 2 percent slopes, occasionally flooded*****Component Description*****Minneiska, occasionally flooded, and similar soils**

*Extent:* 65 to 80 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Slight rises  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Alluvium  
*Flooding does not occur (months):* January, February, September, October, November, December  
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)  
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.7 inches

*Content of organic matter in the upper 10 inches:* 3.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam

C—10 to 60 inches; stratified sand to silt loam

#### **Rushriver, occasionally flooded**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Very fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

A—0 to 46 inches; very fine sandy loam

C—46 to 80 inches; stratified coarse sand to silt loam

#### **Oshawa, frequently flooded**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Oxbows and swales

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status:* At the surface all year

*Ponding is shallowest (depth, months):* 1 foot (January, February, March, August, September, October)

*Ponding is deepest (depth, months):* 2 feet (May, June)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7 percent

*Typical profile:*

A—0 to 12 inches; silt loam

Cg—12 to 60 inches; silty clay loam

#### **Alganssee, occasionally flooded**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Slight rises

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):*

1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5 feet (September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5 inches

*Content of organic matter in the upper 10 inches:* 1.9 percent

*Typical profile:*

A—0 to 6 inches; loamy sand

C—6 to 60 inches; stratified sand to loam

### **L40B—Angus-Kilkenny complex, 2 to 6 percent slopes**

#### ***Component Description***

##### **Angus and similar soils**

*Extent:* 35 to 55 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):*

More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam

BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

### **Kilkenny and similar soils**

*Extent:* 30 to 50 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and shoulders

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Glaciofluvial sediments and reworked till over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.7 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 11 inches; clay loam

Bt—11 to 35 inches; clay loam

2Bk,2C—35 to 80 inches; loam

### **Lerdal**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Glaciofluvial sediments and reworked till over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*

1.6 feet (November)

*Wet soil moisture status is lowest (depth, months):* 4.9 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.2 inches

*Content of organic matter in the upper 10 inches:* 4.6 percent

*Typical profile:*

Ap—0 to 8 inches; clay loam

E—8 to 12 inches; clay loam

Bt,Btg—12 to 41 inches; silty clay loam

Bk—41 to 80 inches; loam

### **Mazaska**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silty clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Glaciofluvial sediments and reworked till over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap,A—0 to 15 inches; silty clay loam

Btg—15 to 42 inches; clay

Bkg—42 to 80 inches; loam

## **L41C2—Lester-Kilkenny complex, 6 to 12 percent slopes, eroded**

### ***Component Description***

#### **Lester, eroded, and similar soils**

*Extent:* 40 to 50 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loam



*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 38 inches; clay loam

Bk—38 to 60 inches; loam

C—60 to 80 inches; loam

### **Kilkenny, eroded, and similar soils**

*Extent:* 35 to 45 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Glaciofluvial sediments and reworked till over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.3 inches

*Content of organic matter in the upper 10 inches:* 1.9 percent

*Typical profile:*

Ap—0 to 9 inches; clay loam

Bt—9 to 53 inches; clay loam

2BC,2C—53 to 80 inches; loam

### **Terril**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam

C—63 to 80 inches; loam

### **Derrynane**

*Extent:* 2 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Drainageways and swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium or glaciofluvial sediments over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1—0 to 19 inches; clay loam

A2—19 to 39 inches; silty clay

Bg,2Bg—39 to 65 inches; clay loam

2Cg—65 to 80 inches; loam

## **L41D2—Lester-Kilkenny complex, 12 to 18 percent slopes, eroded**

### ***Component Description***

#### **Lester, eroded, and similar soils**

*Extent:* 40 to 50 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and backslopes  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.5 inches  
*Content of organic matter in the upper 10 inches:* 1.6 percent  
*Typical profile:*  
 Ap—0 to 7 inches; loam  
 Bt—7 to 38 inches; clay loam  
 Bk—38 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Kilkenny, eroded, and similar soils**

*Extent:* 25 to 45 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and shoulders  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciofluvial sediments and reworked till over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.3 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 Ap—0 to 9 inches; clay loam  
 Bt—9 to 53 inches; clay loam  
 2BC, 2C—53 to 80 inches; loam

#### **Terril**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap, A1—0 to 27 inches; loam  
 A2, BA—27 to 40 inches; loam  
 Bw—40 to 63 inches; loam  
 C—63 to 80 inches; loam

#### **Derrynane**

*Extent:* 2 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Drainageways and swales  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium or glaciofluvial sediments over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap, A1—0 to 19 inches; clay loam  
 A2—19 to 39 inches; silty clay  
 Bg, 2Bg—39 to 65 inches; clay loam  
 2Cg—65 to 80 inches; loam

#### **Ridgeton**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 8 to 14 percent

*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.2 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 Ap,A1—0 to 23 inches; loam  
 A2,AB—23 to 38 inches; loam  
 Bw—38 to 50 inches; loam  
 C—50 to 80 inches; loam

### **L41E—Lester-Kilkenny complex, 18 to 25 percent slopes**

#### ***Component Description***

#### **Lester and similar soils**

*Extent:* 40 to 50 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Backslopes and shoulders  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 A—0 to 5 inches; loam  
 BE,Bt—5 to 34 inches; clay loam  
 Bk—34 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Kilkenny and similar soils**

*Extent:* 35 to 45 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and shoulders  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciofluvial sediments and reworked till over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.2 inches  
*Content of organic matter in the upper 10 inches:* 2.7 percent  
*Typical profile:*  
 A—0 to 7 inches; clay loam  
 Bt—7 to 31 inches; clay loam  
 2Bk,2C—31 to 80 inches; loam

#### **Terril**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 0 to 4 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 A1,A2—0 to 24 inches; loam  
 AB—24 to 37 inches; loam  
 Bw—37 to 57 inches; loam  
 C—57 to 80 inches; loam

#### **Derrynane**

*Extent:* 2 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Drainageways and swales  
*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium or glaciofluvial sediments over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)  
*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A1—0 to 20 inches; clay loam  
 A2—20 to 40 inches; clay loam  
 Btg—40 to 54 inches; clay loam  
 2Cg—54 to 80 inches; loam

#### **Ridgeton**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 10 to 20 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 A1,A2,A3—0 to 32 inches; loam  
 Bw—32 to 40 inches; loam  
 C1,C2—40 to 80 inches; loam

### **L41F—Lester-Kilkenny complex, 25 to 35 percent slopes**

#### ***Component Description***

##### **Lester and similar soils**

*Extent:* 40 to 50 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Backslopes and shoulders

*Slope range:* 25 to 35 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 A—0 to 5 inches; loam  
 BE,Bt—5 to 34 inches; clay loam  
 Bk—34 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Kilkenny and similar soils**

*Extent:* 25 to 45 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Shoulders and summits  
*Slope range:* 25 to 35 percent  
*Texture of the surface layer:* Clay loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciofluvial sediments and reworked till over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.2 inches  
*Content of organic matter in the upper 10 inches:* 3.7 percent  
*Typical profile:*  
 A—0 to 7 inches; clay loam  
 Bt—7 to 31 inches; clay loam  
 2Bk,2C—31 to 80 inches; loam

#### **Ridgeton**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Backslopes and footslopes  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Loam



*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A1,A2,A3—0 to 32 inches; loam

Bw—32 to 40 inches; loam

C1,C2—40 to 80 inches; loam

### **Terril**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Footslopes

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

A1,A2—0 to 24 inches; loam

AB—24 to 37 inches; loam

Bw—37 to 57 inches; loam

C—57 to 80 inches; loam

### **Derrynane**

*Extent:* 2 to 10 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Toeslopes

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Clay loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium or glaciofluvial sediments over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A1—0 to 20 inches; clay loam

A2—20 to 40 inches; clay loam

Btg—40 to 54 inches; clay loam

2Cg—54 to 80 inches; loam

## **L42B—Kingsley-Gotham complex, 2 to 6 percent slopes**

### ***Component Description***

#### **Kingsley and similar soils**

*Extent:* 60 to 85 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 2.2 percent

*Typical profile:*

A—0 to 7 inches; sandy loam

E—7 to 14 inches; sandy loam

Bt—14 to 34 inches; sandy loam

C—34 to 60 inches; sandy loam

#### **Gotham and similar soils**

*Extent:* 20 to 35 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and shoulders

*Slope range:* 2 to 6 percent



*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 1 percent  
*Typical profile:*  
 A—0 to 9 inches; loamy sand  
 Bt—9 to 18 inches; loamy sand  
 Bw,BC—18 to 40 inches; sand  
 C—40 to 80 inches; sand

### Grays

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Very fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 1.5 percent  
*Typical profile:*  
 A—0 to 7 inches; very fine sandy loam  
 Bt—7 to 25 inches; silt loam  
 C—25 to 60 inches; stratified very fine sandy loam to silt loam

## L42C—Kingsley-Gotham complex, 6 to 12 percent slopes

### Component Description

#### Kingsley and similar soils

*Extent:* 60 to 85 percent of the unit  
*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 2.2 percent  
*Typical profile:*  
 A—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

#### Gotham and similar soils

*Extent:* 20 to 35 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and summits  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 1 percent  
*Typical profile:*  
 A—0 to 9 inches; loamy sand  
 Bt—9 to 18 inches; loamy sand  
 Bw,BC—18 to 40 inches; sand  
 C—40 to 80 inches; sand

### Grays

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Very fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 5 feet (January, February, June, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3  
inches

*Content of organic matter in the upper 10 inches:* 1.5  
percent

*Typical profile:*

A—0 to 7 inches; very fine sandy loam

Bt—7 to 25 inches; silt loam

C—25 to 60 inches; stratified very fine sandy loam  
to silt loam

## **L42D—Kingsley-Gotham complex, 12 to 18 percent slopes**

### ***Component Description***

#### **Kingsley and similar soils**

*Extent:* 60 to 85 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all  
year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2  
inches

*Content of organic matter in the upper 10 inches:* 2.2  
percent

*Typical profile:*

A—0 to 7 inches; sandy loam

E—7 to 14 inches; sandy loam

Bt—14 to 34 inches; sandy loam

C—34 to 60 inches; sandy loam

#### **Gotham and similar soils**

*Extent:* 20 to 35 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and shoulders

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Excessively drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet  
all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6  
inches

*Content of organic matter in the upper 10 inches:* 1  
percent

*Typical profile:*

A—0 to 9 inches; loamy sand

Bt—9 to 18 inches; loamy sand

Bw,BC—18 to 40 inches; sand

C—40 to 80 inches; sand

### **Grays**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Very fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Moderately well drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 5 feet (January, February, June, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3  
inches

*Content of organic matter in the upper 10 inches:* 1.5  
percent

*Typical profile:*

A—0 to 7 inches; very fine sandy loam

Bt—7 to 25 inches; silt loam

C—25 to 60 inches; stratified very fine sandy loam  
to silt loam

## **L42E—Kingsley-Gotham complex, 18 to 25 percent slopes**

### ***Component Description***

#### **Kingsley and similar soils**

*Extent:* 60 to 85 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 3.7 percent  
*Typical profile:*  
 A—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

#### **Gotham and similar soils**

*Extent:* 20 to 35 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and summits  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 1 percent  
*Typical profile:*  
 A—0 to 9 inches; loamy sand  
 Bt—9 to 18 inches; loamy sand  
 Bw,BC—18 to 40 inches; sand  
 C—40 to 80 inches; sand

#### **Grays**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Very fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained

*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 1.5 percent  
*Typical profile:*  
 A—0 to 7 inches; very fine sandy loam  
 Bt—7 to 25 inches; silt loam  
 C—25 to 60 inches; stratified very fine sandy loam to silt loam

### **L42F—Kingsley-Gotham complex, 25 to 35 percent slopes**

#### ***Component Description***

#### **Kingsley and similar soils**

*Extent:* 60 to 85 percent of the unit  
*Geomorphic setting:* Escarpments  
*Position on the landform:* Backslopes and shoulders  
*Slope range:* 25 to 35 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 3.7 percent  
*Typical profile:*  
 A—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

#### **Gotham and similar soils**

*Extent:* 20 to 35 percent of the unit  
*Geomorphic setting:* Escarpments  
*Position on the landform:* Shoulders and summits  
*Slope range:* 25 to 35 percent  
*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches

*Content of organic matter in the upper 10 inches:* 1 percent

*Typical profile:*

A—0 to 9 inches; loamy sand

Bt—9 to 18 inches; loamy sand

Bw,BC—18 to 40 inches; sand

C—40 to 80 inches; sand

### Grays

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Escarpments

*Position on the landform:* Footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Very fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

A—0 to 7 inches; very fine sandy loam

Bt—7 to 25 inches; silt loam

C—25 to 60 inches; stratified very fine sandy loam to silt loam

## L43A—Brouillett loam, 0 to 2 percent slopes, occasionally flooded

### Component Description

#### Brouillett, occasionally flooded, and similar soils

*Extent:* 70 to 90 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6 inches

*Content of organic matter in the upper 10 inches:* 4.5 percent

*Typical profile:*

Ap—0 to 14 inches; loam

A—14 to 36 inches; loam

Bg—36 to 44 inches; loam

Cg—44 to 60 inches; stratified loamy very fine sand to silt loam

### Minneiska, occasionally flooded

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Slight rises

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, September, October, November, December

*Flooding is most likely (frequency, months):*

Occasional (March, April, May, June, July, August)

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.7 inches

*Content of organic matter in the upper 10 inches:* 3.5 percent

*Typical profile:*

Ap—0 to 10 inches; fine sandy loam

C—10 to 60 inches; stratified sand to silt loam



**Rushriver, occasionally flooded***Extent:* 5 to 10 percent of the unit*Geomorphic setting:* Flood plains*Position on the landform:* Flats and swales*Slope range:* 0 to 2 percent*Texture of the surface layer:* Very fine sandy loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Poorly drained*Parent material:* Alluvium*Flooding does not occur (months):* January, February, September, October, November, December*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)*Ponding:* None*Available water capacity to a depth of 60 inches:* 8 inches*Content of organic matter in the upper 10 inches:* 2.5 percent*Typical profile:*

A—0 to 46 inches; very fine sandy loam

C—46 to 80 inches; stratified coarse sand to silt loam

*Typical profile:*

Ap—0 to 6 inches; loam

Bt—6 to 38 inches; clay loam

C—38 to 80 inches; loam

**Cordova***Extent:* 5 to 15 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Flats and swales*Slope range:* 0 to 2 percent*Texture of the surface layer:* Loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Poorly drained*Parent material:* Till*Flooding:* None*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)*Ponding:* None*Available water capacity to a depth of 60 inches:* 10.6 inches*Content of organic matter in the upper 10 inches:* 5.5 percent*Typical profile:*

Ap,AB—0 to 13 inches; loam

Btg—13 to 33 inches; clay loam

Cg—33 to 80 inches; loam

**L44A—Nessel loam, 1 to 3 percent slopes****Component Description****Nessel and similar soils***Extent:* 75 to 90 percent of the unit*Geomorphic setting:* Moraines*Position on the landform:* Flats and slight rises*Slope range:* 1 to 3 percent*Texture of the surface layer:* Loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Moderately well drained*Parent material:* Till*Flooding:* None*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)*Ponding:* None*Available water capacity to a depth of 60 inches:* 10.4 inches*Content of organic matter in the upper 10 inches:* 1.5 percent**Angus***Extent:* 0 to 10 percent of the unit*Geomorphic setting:* Hills on moraines*Position on the landform:* Summits and backslopes*Slope range:* 2 to 5 percent*Texture of the surface layer:* Loam*Depth to restrictive feature:* Very deep (more than 60 inches)*Drainage class:* Well drained*Parent material:* Till*Flooding:* None*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)*Ponding:* None*Available water capacity to a depth of 60 inches:* 10.5 inches*Content of organic matter in the upper 10 inches:* 2.5 percent*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam



BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

### **L45A—Dundas-Cordova complex, 0 to 3 percent slopes**

#### ***Component Description***

##### **Dundas and similar soils**

*Extent:* 50 to 75 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.7 inches

*Content of organic matter in the upper 10 inches:* 2.8 percent

*Typical profile:*

Ap—0 to 9 inches; silt loam

E—9 to 15 inches; loam

Btg—15 to 40 inches; clay loam

Cg—40 to 80 inches; loam

##### **Cordova and similar soils**

*Extent:* 15 to 30 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)

*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.6 inches

*Content of organic matter in the upper 10 inches:* 5.5 percent

*Typical profile:*

Ap,AB—0 to 13 inches; loam

Btg—13 to 33 inches; clay loam

Cg—33 to 80 inches; loam

##### **Nessel**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.4 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

Ap—0 to 6 inches; loam

Bt—6 to 38 inches; clay loam

C—38 to 80 inches; loam

##### **Glencoe**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; loam

Cg—45 to 80 inches; loam

## **L46A—Tomall loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Tomall and similar soils**

*Extent:* 70 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 4 feet (April, May)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, July, August, September, October, November, December)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 33 inches; loam

Bw—33 to 42 inches; sandy loam

2Bw—42 to 47 inches; loamy coarse sand

2C—47 to 80 inches; gravelly loamy coarse sand

#### **Rasset**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam

Bt—15 to 28 inches; sandy loam

2BC—28 to 36 inches; loamy sand

2C—36 to 80 inches; sand

#### **Malardi**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand

2C—29 to 80 inches; gravelly sand

## **L47A—Eden Prairie sandy loam, 0 to 2 percent slopes**

### ***Component Description***

#### **Eden Prairie and similar soils**

*Extent:* 80 to 100 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 16 inches; sandy loam

2Bt—16 to 26 inches; loamy sand

2Bw,2C1,2C2—26 to 80 inches; sand

### **Malardi**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand

2C—29 to 80 inches; gravelly sand

### **Rasset**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam

Bt—15 to 28 inches; sandy loam

2BC—28 to 36 inches; loamy sand

2C—36 to 80 inches; sand

## **L47B—Eden Prairie sandy loam, 2 to 6 percent slopes**

### ***Component Description***

#### **Eden Prairie and similar soils**

*Extent:* 75 to 95 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 16 inches; sandy loam

2Bt—16 to 26 inches; loamy sand

2Bw,2C1,2C2—26 to 80 inches; sand

### **Malardi**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Backslopes and summits

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand

2C—29 to 80 inches; gravelly sand

### **Rasset**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam

Bt—15 to 28 inches; sandy loam

2BC—28 to 36 inches; loamy sand

2C—36 to 80 inches; sand

## **L47C—Eden Prairie sandy loam, 6 to 12 percent slopes**

### ***Component Description***

#### **Eden Prairie and similar soils**

*Extent:* 60 to 85 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Backslopes and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 16 inches; sandy loam

2Bt—16 to 26 inches; loamy sand

2Bw,2C1,2C2—26 to 80 inches; sand

### **Malardi**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand

2C—29 to 80 inches; gravelly sand

### **Rasset**

*Extent:* 5 to 15 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year



*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam

Bt—15 to 28 inches; sandy loam

2BC—28 to 36 inches; loamy sand

2C—36 to 80 inches; sand

### **Hawick**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on stream terraces; hills on outwash plains

*Position on the landform:* Backslopes and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.2 inches

*Content of organic matter in the upper 10 inches:* 1.9 percent

*Typical profile:*

Ap—0 to 7 inches; sandy loam

Bw—7 to 11 inches; gravelly loamy coarse sand

C—11 to 80 inches; gravelly coarse sand

## **L49A—Klossner soils, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Klossner, surface drained, and similar soils**

*Extent:* 50 to 100 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 17.4 inches

*Content of organic matter in the upper 10 inches:* 42.5 percent

*Typical profile:*

Oa—0 to 26 inches; muck

2A1—26 to 33 inches; silt loam

2A2—33 to 40 inches; loam

2Cg—40 to 80 inches; loam

#### **Klossner, drained, and similar soils**

*Extent:* 0 to 40 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 17.7 inches

*Content of organic matter in the upper 10 inches:* 50 percent

*Typical profile:*

Op,Oa—0 to 26 inches; muck

2A1—26 to 36 inches; mucky silty clay loam

2A2—36 to 48 inches; silty clay loam

2Cg—48 to 80 inches; loam

#### **Mineral soil, drained**

*Extent:* 5 to 25 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)



*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; clay loam

Cg—45 to 80 inches; loam

## **L50A—Houghton and Muskego soils, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Houghton, surface drained, and similar soils**

*Extent:* 20 to 60 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 23.9 inches

*Content of organic matter in the upper 10 inches:* 84.5 percent

*Typical profile:*

Oa—0 to 80 inches; muck

#### **Muskego, surface drained, and similar soils**

*Extent:* 20 to 60 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over coprogenous earth

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 19.4 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa1—0 to 9 inches; muck

Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

#### **Klossner, drained**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 17.7 inches

*Content of organic matter in the upper 10 inches:* 50 percent

*Typical profile:*

- Op, Oa—0 to 26 inches; muck
- 2A1—26 to 36 inches; mucky silty clay loam
- 2A2—36 to 48 inches; silty clay loam
- 2Cg—48 to 80 inches; loam

### **Mineral soil, drained**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.1 inches

*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*

- Ap—0 to 13 inches; loam
- A, Bg1—13 to 31 inches; clay loam
- Bg2—31 to 45 inches; clay loam
- Cg—45 to 80 inches; loam

## **L52C—Urban land-Lester complex, 2 to 18 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 2 to 18 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some

degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

### **Lester and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and shoulders

*Slope range:* 6 to 18 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

- Ap—0 to 7 inches; loam
- Bt—7 to 38 inches; clay loam
- Bk—38 to 60 inches; loam
- C—60 to 80 inches; loam

### **Kingsley**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 5 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 2.2 percent

*Typical profile:*

- A—0 to 7 inches; sandy loam
- E—7 to 14 inches; sandy loam
- Bt—14 to 34 inches; sandy loam
- C—34 to 60 inches; sandy loam

## **L52E—Urban land-Lester complex, 18 to 35 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 18 to 35 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Lester and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 18 to 35 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

A—0 to 5 inches; loam

BE,Bt—5 to 34 inches; clay loam

Bk—34 to 60 inches; loam

C—60 to 80 inches; loam

#### **Kingsley**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 18 to 35 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 3.7 percent

*Typical profile:*

A—0 to 7 inches; sandy loam

E—7 to 14 inches; sandy loam

Bt—14 to 34 inches; sandy loam

C—34 to 60 inches; sandy loam

## **L53B—Urban land-Moon complex, 2 to 8 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 2 to 8 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Moon and similar soils**

*Extent:* 15 to 25 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4 inches

*Content of organic matter in the upper 10 inches:* 1.7 percent

*Typical profile:*

Ap—0 to 8 inches; loamy fine sand

E—8 to 24 inches; loamy fine sand

2Bt—24 to 46 inches; sandy clay loam

2C—46 to 60 inches; loam

### **Lester**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and shoulders

*Slope range:* 6 to 8 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 38 inches; clay loam

Bk—38 to 60 inches; loam

C—60 to 80 inches; loam

## **L54A—Urban land-Dundas complex, 0 to 3 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 0 to 3 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

### **Dundas and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Silt loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.7 inches

*Content of organic matter in the upper 10 inches:* 2.8 percent

*Typical profile:*

Ap—0 to 9 inches; silt loam

E—9 to 15 inches; loam

Btg—15 to 40 inches; clay loam

Cg—40 to 80 inches; loam

### **Nessel**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and slight rises

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.4 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

Ap—0 to 6 inches; loam

Bt—6 to 38 inches; clay loam

C—38 to 80 inches; loam



## **L55B—Urban land-Malardi complex, 0 to 8 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Slope range:* 0 to 8 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Malardi and similar soils**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 8 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand

2C—29 to 80 inches; gravelly sand

#### **Rasset**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Position on the landform:* Swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 6.1 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A—0 to 15 inches; sandy loam

Bt—15 to 28 inches; sandy loam

2BC—28 to 36 inches; loamy sand

2C—36 to 80 inches; sand

#### **Eden Prairie**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Hills on outwash plains; hills on stream terraces

*Position on the landform:* Backslopes and summits

*Slope range:* 0 to 8 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 16 inches; sandy loam

2Bt—16 to 26 inches; loamy sand

2Bw,2C1,2C2—26 to 80 inches; sand

## **L55C—Urban land-Malardi complex, 8 to 18 percent slopes**

### ***Component Description***

#### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Slope range:* 8 to 18 percent

*Flooding:* None

*Ponding:* None



*General description:* Urban land consists mainly of residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Malardi and similar soils**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Backslopes and summits  
*Slope range:* 8 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 4.3 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 15 inches; sandy loam  
 2Bt—15 to 29 inches; loamy coarse sand  
 2C—29 to 80 inches; gravelly sand

#### **Hawick**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains  
*Position on the landform:* Shoulders  
*Slope range:* 8 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.2 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 Ap—0 to 7 inches; sandy loam

Bw—7 to 11 inches; gravelly loamy coarse sand  
 C—11 to 80 inches; gravelly coarse sand

#### **Crowfork**

*Extent:* 0 to 5 percent of the unit  
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces  
*Position on the landform:* Summits and backslopes  
*Slope range:* 8 to 18 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 11 inches; loamy sand  
 E—11 to 20 inches; loamy fine sand  
 E&Bt—20 to 76 inches; loamy sand  
 C—76 to 80 inches; sand

### **L56A—Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded**

#### **Component Description**

#### **Muskego, frequently flooded, and similar soils**

*Extent:* 30 to 100 percent of the unit  
*Geomorphic setting:* Flood plains  
*Position on the landform:* Flats  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Muck  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Organic material over coprogenous earth  
*Flooding does not occur (months):* January, February, August, September, October, November, December  
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)  
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 19.4 inches

*Content of organic matter in the upper 10 inches:* 75 percent

*Typical profile:*

Oa1—0 to 9 inches; muck

Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

### **Klossner, frequently flooded, and similar soils**

*Extent:* 30 to 100 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Organic material over till

*Flooding does not occur (months):* January, February, August, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 17.4 inches

*Content of organic matter in the upper 10 inches:* 42.5 percent

*Typical profile:*

Oa—0 to 26 inches; muck

2A1—26 to 33 inches; silt loam

2A2—33 to 40 inches; loam

2Cg—40 to 80 inches; loam

### **Suckercreek, frequently flooded**

*Extent:* 0 to 40 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Alluvium

*Flooding does not occur (months):* January, February, August, September, October, November, December

*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)

*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.9 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A—0 to 22 inches; loam

Cg—22 to 80 inches; loamy fine sand

## **L58B—Koronis-Kingsley complex, 2 to 6 percent slopes**

### **Component Description**

#### **Koronis and similar soils**

*Extent:* 50 to 85 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.7 inches

*Content of organic matter in the upper 10 inches:* 2.5 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 30 inches; sandy clay loam

Bk—30 to 60 inches; loam

#### **Kingsley and similar soils**

*Extent:* 20 to 35 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 2.2 percent  
*Typical profile:*  
 Ap—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

### **Forestcity**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A1—0 to 22 inches; fine sandy loam  
 A2,AB—22 to 36 inches; loam  
 2Btg—36 to 60 inches; sandy clay loam  
 2Cg—60 to 80 inches; sandy loam

### **Gotham**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and shoulders  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Glaciofluvial sediments  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 1 percent  
*Typical profile:*  
 Ap—0 to 9 inches; loamy sand  
 Bt—9 to 18 inches; loamy sand  
 Bw,BC—18 to 40 inches; sand  
 C—40 to 80 inches; sand

## **L58C2—Koronis-Kingsley complex, 6 to 12 percent slopes, eroded**

### **Component Description**

#### **Koronis, eroded, and similar soils**

*Extent:* 50 to 85 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.7 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 30 inches; sandy clay loam  
 Bk—30 to 60 inches; loam

#### **Kingsley, eroded, and similar soils**

*Extent:* 20 to 35 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 1.5 percent  
*Typical profile:*  
 Ap—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

### **Forestcity**

*Extent:* 0 to 20 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A1—0 to 22 inches; fine sandy loam  
 A2,AB—22 to 36 inches; loam  
 2Btg—36 to 60 inches; sandy clay loam  
 2Cg—60 to 80 inches; sandy loam

### **Gotham**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and shoulders  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Glaciofluvial sediments

*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 1 percent  
*Typical profile:*  
 Ap—0 to 9 inches; loamy sand  
 Bt—9 to 18 inches; loamy sand  
 Bw,BC—18 to 40 inches; sand  
 C—40 to 80 inches; sand

## **L58D2—Koronis-Kingsley complex, 12 to 18 percent slopes, eroded**

### **Component Description**

#### **Koronis, eroded, and similar soils**

*Extent:* 50 to 85 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Backslopes and summits  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.7 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 30 inches; sandy clay loam  
 Bk—30 to 60 inches; loam

#### **Kingsley, eroded, and similar soils**

*Extent:* 20 to 35 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and backslopes  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

Ap—0 to 7 inches; sandy loam

E—7 to 14 inches; sandy loam

Bt—14 to 34 inches; sandy loam

C—34 to 60 inches; sandy loam

### **Forestcity**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.9 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1—0 to 22 inches; fine sandy loam

A2,AB—22 to 36 inches; loam

2Btg—36 to 60 inches; sandy clay loam

2Cg—60 to 80 inches; sandy loam

### **Gotham**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and shoulders

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches

*Content of organic matter in the upper 10 inches:* 1 percent

*Typical profile:*

Ap—0 to 9 inches; loamy sand

Bt—9 to 18 inches; loamy sand

Bw,BC—18 to 40 inches; sand

C—40 to 80 inches; sand

## **L58E—Koronis-Kingsley complex, 18 to 25 percent slopes**

### **Component Description**

#### **Koronis and similar soils**

*Extent:* 50 to 85 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.7 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

A—0 to 10 inches; sandy loam

Bt—10 to 30 inches; sandy clay loam

Bk—30 to 60 inches; loam

#### **Kingsley and similar soils**

*Extent:* 20 to 35 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None



*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 3.7 percent

*Typical profile:*

A—0 to 7 inches; sandy loam  
E—7 to 14 inches; sandy loam  
Bt—14 to 34 inches; sandy loam  
C—34 to 60 inches; sandy loam

### **Forestcity**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.9 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A1—0 to 22 inches; fine sandy loam  
A2,AB—22 to 36 inches; loam  
2Btg—36 to 60 inches; sandy clay loam  
2Cg—60 to 80 inches; sandy loam

### **Gotham**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Excessively drained

*Parent material:* Glaciofluvial sediments

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 5.6 inches

*Content of organic matter in the upper 10 inches:* 1 percent

*Typical profile:*

A—0 to 9 inches; loamy sand  
Bt—9 to 18 inches; loamy sand  
Bw,BC—18 to 40 inches; sand  
C—40 to 80 inches; sand

## **L59A—Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes**

### **Component Description**

#### **Forestcity and similar soils**

*Extent:* 60 to 90 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap,A1—0 to 22 inches; fine sandy loam  
A2,AB—22 to 43 inches; loam  
2Btg—43 to 60 inches; sandy clay loam  
2BCg—60 to 80 inches; sandy loam

#### **Lundlake, depressional, and similar soils**

*Extent:* 10 to 40 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April)

*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding does not occur (months):* January, February,

May, June, July, August, September, October,  
November, December

*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 11.3  
inches

*Content of organic matter in the upper 10 inches:* 6  
percent

*Typical profile:*

Ap,A1—0 to 20 inches; loam

A2,A3,AB—20 to 46 inches; loam

Bg—46 to 54 inches; sandy loam

Cg—54 to 60 inches; sandy loam

### **Marcellon**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Flats and slight rises

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
1.5 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 5 feet (August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.2  
inches

*Content of organic matter in the upper 10 inches:* 5  
percent

*Typical profile:*

Ap,A—0 to 13 inches; loam

Bt—13 to 32 inches; loam

Bk—32 to 60 inches; sandy loam

### **L60B—Angus-Moon complex, 2 to 5 percent slopes**

#### ***Component Description***

#### **Angus and similar soils**

*Extent:* 60 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 6.7 feet (January, February, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5  
inches

*Content of organic matter in the upper 10 inches:* 2.5  
percent

*Typical profile:*

Ap—0 to 8 inches; loam

Bt—8 to 35 inches; clay loam

BC—35 to 40 inches; clay loam

C—40 to 80 inches; loam

#### **Moon and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and shoulders

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 5 feet (January, February, June, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4  
inches

*Content of organic matter in the upper 10 inches:* 1.7  
percent

*Typical profile:*

Ap—0 to 8 inches; loamy fine sand

E—8 to 24 inches; loamy fine sand

2Bt—24 to 46 inches; sandy clay loam

2C—46 to 60 inches; loam

#### **Hamel**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Drainageways and swales

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3  
feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.6  
inches

*Content of organic matter in the upper 10 inches:* 6  
percent

*Typical profile:*

Ap,A,AB—0 to 24 inches; loam

Btg—24 to 46 inches; clay loam

Cg—46 to 80 inches; loam

## **L61C2—Lester-Metea complex, 6 to 12 percent slopes, eroded**

### ***Component Description***

#### **Lester, eroded, and similar soils**

*Extent:* 50 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet  
all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5  
inches

*Content of organic matter in the upper 10 inches:* 1.6  
percent

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 38 inches; clay loam

Bk—38 to 60 inches; loam

C—60 to 80 inches; loam

#### **Metea, eroded, and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Well drained

*Parent material:* Outwash over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all  
year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4  
inches

*Content of organic matter in the upper 10 inches:* 1.2  
percent

*Typical profile:*

Ap—0 to 8 inches; loamy fine sand

E—8 to 24 inches; loamy fine sand

2Bt—24 to 46 inches; sandy clay loam

2C—46 to 60 inches; loam

### **Terril**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 6.7 feet (January, February, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4  
inches

*Content of organic matter in the upper 10 inches:* 4  
percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam

C—63 to 80 inches; loam

### **Hamel**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60  
inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.6 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 24 inches; loam  
Btg—24 to 46 inches; clay loam  
Cg—46 to 80 inches; loam

## **L61D2—Lester-Metea complex, 12 to 18 percent slopes, eroded**

### ***Component Description***

#### **Lester, eroded, and similar soils**

*Extent:* 50 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and shoulders

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

Ap—0 to 7 inches; loam  
Bt—7 to 38 inches; clay loam  
Bk—38 to 60 inches; loam  
C—60 to 80 inches; loam

#### **Metea, eroded, and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4 inches

*Content of organic matter in the upper 10 inches:* 1.2 percent

*Typical profile:*

Ap—0 to 8 inches; loamy fine sand  
E—8 to 24 inches; loamy fine sand  
2Bt—24 to 46 inches; sandy clay loam  
2C—46 to 60 inches; loam

### **Terril**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam  
A2,BA—27 to 40 inches; loam  
Bw—40 to 63 inches; loam  
C—63 to 80 inches; loam

### **Ridgeton**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes and backslopes

*Slope range:* 8 to 14 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.2 inches



*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 23 inches; loam  
A2,AB—23 to 38 inches; loam  
Bw—38 to 50 inches; loam  
C—50 to 80 inches; loam

### **Hamel**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.6 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 24 inches; loam  
Btg—24 to 46 inches; clay loam  
Cg—46 to 80 inches; loam

## **L61E—Lester-Metea complex, 18 to 25 percent slopes**

### **Component Description**

#### **Lester and similar soils**

*Extent:* 50 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.4 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

A—0 to 5 inches; loam  
BE,Bt—5 to 34 inches; clay loam  
Bk—34 to 60 inches; loam  
C—60 to 80 inches; loam

#### **Metea and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Outwash over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.4 inches

*Content of organic matter in the upper 10 inches:* 3.2 percent

*Typical profile:*

A—0 to 8 inches; loamy fine sand  
E—8 to 24 inches; loamy fine sand  
2Bt—24 to 46 inches; sandy clay loam  
2C—46 to 60 inches; loam

#### **Terril**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3 inches

*Content of organic matter in the upper 10 inches:* 4 percent



*Typical profile:*

A1,A2—0 to 24 inches; loam  
 AB—24 to 37 inches; loam  
 Bw—37 to 57 inches; loam  
 C—57 to 80 inches; loam

**Hamel**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A1,A2—0 to 22 inches; loam  
 Btg—22 to 41 inches; clay loam  
 Cg—41 to 80 inches; loam

**Ridgeton**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 10 to 20 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 A1,A2,A3—0 to 32 inches; loam  
 Bw—32 to 40 inches; loam  
 C1,C2—40 to 80 inches; loam

**L62B—Koronis-Kingsley-Malardi complex, 2 to 6 percent slopes*****Component Description*****Koronis and similar soils**

*Extent:* 30 to 70 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.7 inches  
*Content of organic matter in the upper 10 inches:* 2.5 percent  
*Typical profile:*  
 Ap—0 to 10 inches; sandy loam  
 Bt—10 to 30 inches; sandy clay loam  
 Bk—30 to 60 inches; loam

**Kingsley and similar soils**

*Extent:* 10 to 40 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and backslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 2.2 percent  
*Typical profile:*  
 Ap—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

**Malardi and similar soils**

*Extent:* 10 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.8 inches

*Content of organic matter in the upper 10 inches:* 2.3 percent

*Typical profile:*

Ap—0 to 9 inches; sandy loam

Bt—9 to 14 inches; sandy loam

2Bt—14 to 21 inches; gravelly loamy coarse sand

2C—21 to 80 inches; gravelly sand

#### **Forestcity**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.9 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1—0 to 22 inches; fine sandy loam

A2,AB—22 to 36 inches; loam

2Btg—36 to 60 inches; sandy clay loam

2Cg—60 to 80 inches; sandy loam

## **L62C2—Koronis-Kingsley-Malardi complex, 6 to 12 percent slopes, eroded**

### ***Component Description***

#### **Koronis, eroded, and similar soils**

*Extent:* 30 to 70 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.7 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 30 inches; sandy clay loam

Bk—30 to 60 inches; loam

#### **Kingsley, eroded, and similar soils**

*Extent:* 10 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

Ap—0 to 7 inches; sandy loam

E—7 to 14 inches; sandy loam

Bt—14 to 34 inches; sandy loam

C—34 to 60 inches; sandy loam

#### **Malardi, eroded, and similar soils**

*Extent:* 10 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.8 inches

*Content of organic matter in the upper 10 inches:* 1.9 percent

*Typical profile:*

Ap—0 to 9 inches; sandy loam

Bt—9 to 14 inches; sandy loam

2Bt—14 to 21 inches; gravelly loamy coarse sand

2C—21 to 80 inches; gravelly sand

#### **Forestcity**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.9 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A1—0 to 22 inches; fine sandy loam

A2,AB—22 to 36 inches; loam

2Btg—36 to 60 inches; sandy clay loam

2Cg—60 to 80 inches; sandy loam

### **L62D2—Koronis-Kingsley-Malardi complex, 12 to 18 percent slopes, eroded**

#### ***Component Description***

#### **Koronis, eroded, and similar soils**

*Extent:* 30 to 70 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.7 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 30 inches; sandy clay loam

Bk—30 to 60 inches; loam

#### **Kingsley, eroded, and similar soils**

*Extent:* 10 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 1.5 percent

*Typical profile:*

Ap—0 to 7 inches; sandy loam

E—7 to 14 inches; sandy loam

Bt—14 to 34 inches; sandy loam

C—34 to 60 inches; sandy loam

**Malardi, eroded, and similar soils**

*Extent:* 10 to 40 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and summits  
*Slope range:* 12 to 18 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.8 inches  
*Content of organic matter in the upper 10 inches:* 1.9 percent  
*Typical profile:*  
 Ap—0 to 9 inches; sandy loam  
 Bt—9 to 14 inches; sandy loam  
 2Bt—14 to 21 inches; gravelly loamy coarse sand  
 2C—21 to 80 inches; gravelly sand

**Forestcity**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A1—0 to 22 inches; fine sandy loam  
 A2,AB—22 to 36 inches; loam  
 2Btg—36 to 60 inches; sandy clay loam  
 2Cg—60 to 80 inches; sandy loam

**L62E—Koronis-Kingsley-Malardi complex, 18 to 35 percent slopes****Component Description****Koronis and similar soils**

*Extent:* 30 to 70 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Backslopes and summits  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 9.7 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 A—0 to 10 inches; sandy loam  
 Bt—10 to 30 inches; sandy clay loam  
 Bk—30 to 60 inches; loam

**Kingsley and similar soils**

*Extent:* 10 to 40 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Backslopes and summits  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.2 inches  
*Content of organic matter in the upper 10 inches:* 3.7 percent  
*Typical profile:*  
 A—0 to 7 inches; sandy loam  
 E—7 to 14 inches; sandy loam  
 Bt—14 to 34 inches; sandy loam  
 C—34 to 60 inches; sandy loam

**Malardi and similar soils**

*Extent:* 10 to 40 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Summits and shoulders  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.8 inches  
*Content of organic matter in the upper 10 inches:* 4.6 percent  
*Typical profile:*  
 A—0 to 9 inches; sandy loam  
 Bt—9 to 14 inches; sandy loam  
 2Bt—14 to 21 inches; gravelly loamy coarse sand  
 2C—21 to 80 inches; gravelly sand

**Forestcity**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.9 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A1—0 to 22 inches; fine sandy loam  
 A2,AB—22 to 36 inches; loam  
 2Btg—36 to 60 inches; sandy clay loam  
 2Cg—60 to 80 inches; sandy loam

**L64A—Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes****Component Description****Tadkee and similar soils**

*Extent:* 20 to 70 percent of the unit  
*Geomorphic setting:* Beaches on moraines  
*Position on the landform:* Flats  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Beach sand over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 7.6 inches  
*Content of organic matter in the upper 10 inches:* 4.3 percent  
*Typical profile:*  
 A—0 to 6 inches; loamy fine sand  
 Bg—6 to 34 inches; sand  
 2Cg—34 to 80 inches; loam

**Tadkee, depressional, and similar soils**

*Extent:* 20 to 70 percent of the unit  
*Geomorphic setting:* Beaches on moraines  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Mucky loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Beach sand over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (March, April, May, June)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)  
*Ponding does not occur (months):* January, February, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (March, April, May)  
*Available water capacity to a depth of 60 inches:* 9.8 inches



*Content of organic matter in the upper 10 inches:* 12.1 percent

*Typical profile:*

A—0 to 6 inches; mucky loamy fine sand

Bg—6 to 27 inches; sand

2Cg—27 to 80 inches; loam

#### **Better drained soil**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Beaches on moraines

*Position on the landform:* Slight rises

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loamy sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Outwash over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 8.2 inches

*Content of organic matter in the upper 10 inches:* 2.1 percent

*Typical profile:*

A—0 to 6 inches; loamy sand

Bw—6 to 25 inches; loamy sand

2Cg—25 to 80 inches; loam

#### **Granby**

*Extent:* 0 to 6 percent of the unit

*Geomorphic setting:* Beaches on moraines

*Position on the landform:* Depressions

*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* At the surface (March, April, May, June)

*Wet soil moisture status is lowest (depth, months):* 1.8 feet (August)

*Ponding does not occur (months):* January, February, July, August, September, October, November, December

*Ponding is deepest (depth, months):* 1 foot (March, April, May)

*Available water capacity to a depth of 60 inches:* 4.9 inches

*Content of organic matter in the upper 10 inches:* 7 percent

*Typical profile:*

A—0 to 12 inches; loamy fine sand

AC—12 to 24 inches; loamy fine sand

C—24 to 60 inches; loamy fine sand

#### **Less sandy soil**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Beaches on moraines

*Position on the landform:* Flats

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9.9 inches

*Content of organic matter in the upper 10 inches:* 2.9 percent

*Typical profile:*

A—0 to 4 inches; loamy fine sand

Bg—4 to 20 inches; loam

Cg—20 to 80 inches; loam

### **L70C2—Lester-Malardi complex, 6 to 12 percent slopes, eroded**

#### ***Component Description***

##### **Lester, eroded, and similar soils**

*Extent:* 50 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 38 inches; clay loam

Bk—38 to 60 inches; loam

C—60 to 80 inches; loam

### **Malardi, eroded, and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Shoulders and summits

*Slope range:* 6 to 12 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 4.3 inches

*Content of organic matter in the upper 10 inches:* 3 percent

*Typical profile:*

Ap—0 to 10 inches; sandy loam

Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand

2C—29 to 80 inches; gravelly sand

### **Terril**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 0 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam

C—63 to 80 inches; loam

### **Hamel**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.6 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 24 inches; loam

Btg—24 to 46 inches; clay loam

Cg—46 to 80 inches; loam

## **L70D2—Lester-Malardi complex, 12 to 18 percent slopes, eroded**

### **Component Description**

#### **Lester, eroded, and similar soils**

*Extent:* 50 to 80 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Backslopes and shoulders

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 1.6 percent

*Typical profile:*

Ap—0 to 7 inches; loam  
Bt—7 to 38 inches; clay loam  
Bk—38 to 60 inches; loam  
C—60 to 80 inches; loam

**Malardi, eroded, and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Summits and shoulders

*Slope range:* 12 to 18 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat excessively drained

*Parent material:* Outwash

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 3.8 inches

*Content of organic matter in the upper 10 inches:* 2.8 percent

*Typical profile:*

Ap—0 to 9 inches; sandy loam  
Bt—9 to 14 inches; sandy loam  
2Bt—14 to 21 inches; gravelly loamy coarse sand  
2C—21 to 80 inches; gravelly sand

**Terril**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 2 to 6 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam  
A2,BA—27 to 40 inches; loam  
Bw—40 to 63 inches; loam  
C—63 to 80 inches; loam

**Ridgeton**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes and backslopes

*Slope range:* 8 to 14 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.2 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 23 inches; loam  
A2,AB—23 to 38 inches; loam  
Bw—38 to 50 inches; loam  
C—50 to 80 inches; loam

**Hamel**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Moraines

*Position on the landform:* Swales and drainageways

*Slope range:* 1 to 3 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.6 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

Ap,A,AB—0 to 24 inches; loam  
Btg—24 to 46 inches; clay loam  
Cg—46 to 80 inches; loam

## **L70E—Lester-Malardi complex, 18 to 35 percent slopes**

### ***Component Description***

#### **Lester and similar soils**

*Extent:* 50 to 80 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and backslopes  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
 A—0 to 5 inches; loam  
 BE,Bt—5 to 34 inches; clay loam  
 Bk—34 to 60 inches; loam  
 C—60 to 80 inches; loam

#### **Malardi and similar soils**

*Extent:* 20 to 40 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and summits  
*Slope range:* 18 to 35 percent  
*Texture of the surface layer:* Sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 3.8 inches  
*Content of organic matter in the upper 10 inches:* 4.6 percent  
*Typical profile:*  
 A—0 to 9 inches; sandy loam  
 Bt—9 to 14 inches; sandy loam  
 2Bt—14 to 21 inches; gravelly loamy coarse sand  
 2C—21 to 80 inches; gravelly sand

#### **Terril**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes  
*Slope range:* 2 to 6 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)  
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 4 percent  
*Typical profile:*  
 A1,A2—0 to 24 inches; loam  
 AB—24 to 37 inches; loam  
 Bw—37 to 57 inches; loam  
 C—57 to 80 inches; loam

#### **Hamel**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Swales and drainageways  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.5 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 A1,A2—0 to 22 inches; loam  
 Btg—22 to 41 inches; clay loam  
 Cg—41 to 80 inches; loam

**Ridgeton**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 10 to 20 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.4 inches  
*Content of organic matter in the upper 10 inches:* 5 percent  
*Typical profile:*  
 A1,A2,A3—0 to 32 inches; loam  
 Bw—32 to 40 inches; loam  
 C1,C2—40 to 80 inches; loam

**L71C—Metea loamy fine sand, 6 to 12 percent slopes****Component Description****Metea and similar soils**

*Extent:* 70 to 90 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders, summits, and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 5 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.4 inches  
*Content of organic matter in the upper 10 inches:* 1.2 percent  
*Typical profile:*  
 Ap—0 to 8 inches; loamy fine sand  
 E—8 to 24 inches; loamy fine sand

2Bt—24 to 46 inches; sandy clay loam  
 2C—46 to 60 inches; loam

**Lester**

*Extent:* 5 to 20 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Shoulders and backslopes  
*Slope range:* 6 to 12 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.5 inches  
*Content of organic matter in the upper 10 inches:* 1.6 percent  
*Typical profile:*  
 Ap—0 to 7 inches; loam  
 Bt—7 to 38 inches; clay loam  
 Bk—38 to 60 inches; loam  
 C—60 to 80 inches; loam

**Moon**

*Extent:* 0 to 10 percent of the unit  
*Geomorphic setting:* Hills on moraines  
*Position on the landform:* Footslopes and backslopes  
*Slope range:* 2 to 5 percent  
*Texture of the surface layer:* Loamy fine sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Moderately well drained  
*Parent material:* Outwash over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):*  
 2.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):*  
 More than 5 feet (January, February, June, July, August, September)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 8.4 inches  
*Content of organic matter in the upper 10 inches:* 1.7 percent  
*Typical profile:*  
 Ap—0 to 8 inches; loamy fine sand  
 E—8 to 24 inches; loamy fine sand



2Bt—24 to 46 inches; sandy clay loam  
2C—46 to 60 inches; loam

## **L72A—Lundlake loam, depressional, 0 to 1 percent slopes**

### ***Component Description***

#### **Lundlake, depressional, and similar soils**

*Extent:* 85 to 100 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)  
*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (April)  
*Available water capacity to a depth of 60 inches:* 11.3 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
Ap,A1—0 to 20 inches; loam  
A2,A3,AB—20 to 46 inches; loam  
Bg—46 to 54 inches; sandy loam  
Cg—54 to 60 inches; sandy loam

#### **Forestcity**

*Extent:* 5 to 15 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Rims of depressions  
*Slope range:* 0 to 2 percent  
*Texture of the surface layer:* Fine sandy loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 9 inches

*Content of organic matter in the upper 10 inches:* 3 percent

#### *Typical profile:*

Ap,A1—0 to 22 inches; fine sandy loam  
A2,AB—22 to 43 inches; loam  
2Btg—43 to 60 inches; sandy clay loam  
2BCg—60 to 80 inches; sandy loam

## **L110E—Lester-Ridgeton complex, 18 to 25 percent slopes**

### ***Component Description***

#### **Lester and similar soils**

*Extent:* 45 to 65 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Shoulders and backslopes  
*Slope range:* 18 to 25 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 10.4 inches  
*Content of organic matter in the upper 10 inches:* 3 percent  
*Typical profile:*  
A—0 to 5 inches; loam  
BE,Bt—5 to 34 inches; clay loam  
Bk—34 to 60 inches; loam  
C—60 to 80 inches; loam

#### **Ridgeton and similar soils**

*Extent:* 20 to 40 percent of the unit  
*Geomorphic setting:* Escarpments on moraines  
*Position on the landform:* Backslopes and footslopes  
*Slope range:* 12 to 25 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Well drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A1,A2,A3—0 to 32 inches; loam

Bw—32 to 40 inches; loam

C1,C2—40 to 80 inches; loam

### **Cokato**

*Extent:* 10 to 20 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.8 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

A—0 to 16 inches; loam

Bt—16 to 30 inches; clay loam

Bk—30 to 60 inches; loam

### **Belview**

*Extent:* 0 to 15 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 3.7 percent

*Typical profile:*

A—0 to 9 inches; loam

Bk—9 to 50 inches; loam

C—50 to 60 inches; loam

### **Hamel**

*Extent:* 0 to 5 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Toeslopes

*Slope range:* 1 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A1,A2—0 to 22 inches; loam

Btg—22 to 41 inches; clay loam

Cg—41 to 80 inches; loam

### **Terril**

*Extent:* 1 to 5 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Footslopes

*Slope range:* 4 to 6 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

A1,A2—0 to 24 inches; loam

AB—24 to 37 inches; loam

Bw—37 to 57 inches; loam

C—57 to 80 inches; loam

## **L110F—Lester-Ridgeton complex, 25 to 45 percent slopes**

### ***Component Description***

#### **Lester and similar soils**

*Extent:* 45 to 65 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Shoulders and backslopes

*Slope range:* 25 to 45 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.4 inches

*Content of organic matter in the upper 10 inches:* 3.3 percent

*Typical profile:*

A—0 to 6 inches; loam

Bt—6 to 25 inches; clay loam

C—25 to 60 inches; loam

#### **Ridgeton and similar soils**

*Extent:* 20 to 40 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Backslopes and footslopes

*Slope range:* 18 to 25 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

A1,A2,A3—0 to 32 inches; loam

Bw—32 to 40 inches; loam

C1,C2—40 to 80 inches; loam

#### **Cokato**

*Extent:* 0 to 20 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Summits and backslopes

*Slope range:* 25 to 40 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.8 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

A—0 to 16 inches; loam

Bt—16 to 30 inches; clay loam

Bk—30 to 60 inches; loam

#### **Belview**

*Extent:* 2 to 15 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Backslopes and shoulders

*Slope range:* 25 to 45 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained

*Parent material:* Till

*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.5 inches

*Content of organic matter in the upper 10 inches:* 3.7 percent

*Typical profile:*

A—0 to 9 inches; loam

Bk—9 to 50 inches; loam

C—50 to 60 inches; loam

#### **Terril**

*Extent:* 1 to 5 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Footslopes

*Slope range:* 4 to 6 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.3 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

A1,A2—0 to 24 inches; loam

AB—24 to 37 inches; loam

Bw—37 to 57 inches; loam

C—57 to 80 inches; loam

### **Hamel**

*Extent:* 0 to 3 percent of the unit

*Geomorphic setting:* Escarpments on moraines

*Position on the landform:* Toeslopes

*Slope range:* 1 to 4 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.5 inches

*Content of organic matter in the upper 10 inches:* 6 percent

*Typical profile:*

A1,A2—0 to 22 inches; loam

Btg—22 to 41 inches; clay loam

Cg—41 to 80 inches; loam

### **L131A—Litchfield loamy fine sand, 0 to 3 percent slopes**

#### ***Component Description***

#### **Litchfield and similar soils**

*Extent:* 75 to 95 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Flats and slight rises

*Slope range:* 0 to 3 percent

*Texture of the surface layer:* Loamy fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Somewhat poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 1.3 feet (April)

*Wet soil moisture status is lowest (depth, months):* 3 feet (August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.2 inches

*Content of organic matter in the upper 10 inches:* 2 percent

*Typical profile:*

Ap,A,AB—0 to 20 inches; loamy fine sand

Bw—20 to 33 inches; fine sand

BC—33 to 40 inches; very fine sandy loam

C—40 to 80 inches; loamy fine sand

### **Darfur**

*Extent:* 5 to 20 percent of the unit

*Geomorphic setting:* Stream terraces and outwash plains

*Position on the landform:* Flats and swales

*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Poorly drained

*Parent material:* Outwash

*Flooding:* None

*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)

*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 7.6 inches

*Content of organic matter in the upper 10 inches:* 5 percent

*Typical profile:*

Ap,A—0 to 16 inches; sandy loam

Bg—16 to 32 inches; sandy clay loam

Cg—32 to 80 inches; stratified sand to loamy fine sand to fine sandy loam

### **Crowfork**

*Extent:* 0 to 10 percent of the unit



*Geomorphic setting:* Stream terraces and outwash plains  
*Position on the landform:* Slight rises  
*Slope range:* 3 to 6 percent  
*Texture of the surface layer:* Loamy sand  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Excessively drained  
*Parent material:* Outwash  
*Flooding:* None  
*Depth to wet soil moisture status:* More than 6.7 feet all year  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 5.6 inches  
*Content of organic matter in the upper 10 inches:* 2 percent  
*Typical profile:*  
 Ap—0 to 11 inches; loamy sand  
 E—11 to 20 inches; loamy fine sand  
 E&Bt—20 to 76 inches; loamy sand  
 C—76 to 80 inches; sand

### **L132A—Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes**

#### ***Component Description***

#### **Hamel and similar soils**

*Extent:* 40 to 80 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Drainageways and swales  
*Slope range:* 1 to 3 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)  
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.6 inches  
*Content of organic matter in the upper 10 inches:* 6 percent  
*Typical profile:*  
 Ap,A,AB—0 to 24 inches; loam  
 Btg—24 to 46 inches; clay loam  
 Cg—46 to 80 inches; loam

#### **Glencoe, depressional, and similar soils**

*Extent:* 20 to 40 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Depressions  
*Slope range:* 0 to 1 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Very poorly drained  
*Parent material:* Till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)  
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)  
*Ponding does not occur (months):* January, February, May, June, July, August, September, October, November, December  
*Ponding is deepest (depth, months):* 1 foot (April)  
*Available water capacity to a depth of 60 inches:* 11.1 inches  
*Content of organic matter in the upper 10 inches:* 7.5 percent  
*Typical profile:*  
 Ap—0 to 13 inches; loam  
 A,Bg1—13 to 31 inches; clay loam  
 Bg2—31 to 45 inches; loam  
 Cg—45 to 80 inches; loam

#### **Hamel, overwash**

*Extent:* 5 to 25 percent of the unit  
*Geomorphic setting:* Moraines  
*Position on the landform:* Drainageways and swales  
*Slope range:* 1 to 4 percent  
*Texture of the surface layer:* Loam  
*Depth to restrictive feature:* Very deep (more than 60 inches)  
*Drainage class:* Somewhat poorly drained  
*Parent material:* Colluvium over till  
*Flooding:* None  
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)  
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (August)  
*Ponding:* None  
*Available water capacity to a depth of 60 inches:* 11.8 inches  
*Content of organic matter in the upper 10 inches:* 3.5 percent  
*Typical profile:*  
 Ap—0 to 13 inches; loam  
 A—13 to 29 inches; clay loam



Btg—29 to 50 inches; clay loam

Cg—50 to 80 inches; loam

### **Terril**

*Extent:* 0 to 10 percent of the unit

*Geomorphic setting:* Hills on moraines

*Position on the landform:* Footslopes

*Slope range:* 2 to 5 percent

*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Moderately well drained

*Parent material:* Colluvium over till

*Flooding:* None

*Wet soil moisture status is highest (depth, months):*  
3.6 feet (April)

*Wet soil moisture status is lowest (depth, months):*  
More than 6.7 feet (January, February, July,  
August, September)

*Ponding:* None

*Available water capacity to a depth of 60 inches:* 11.4 inches

*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam

C—63 to 80 inches; loam

### **M-W—Water, miscellaneous**

#### ***Component Description***

- This map unit consists of bodies of water that have been constructed, including sewage lagoons, storm-water sediment basins with a permanent pool of water, and aquaculture ponds.

### **U1A—Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes**

#### ***Component Description***

#### **Urban land**

*Extent:* 65 to 90 percent of the unit

*Geomorphic setting:* Stream terraces, moraines, and outwash plains

*Slope range:* 0 to 2 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of

commercial, industrial, or residential areas and is covered by impervious surfaces. Most areas were originally wet, mineral or organic soils in depressions. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **Udorthents, wet substratum**

*Extent:* 10 to 35 percent of the unit

*Geomorphic setting:* Stream terraces, outwash plains, and moraines

*Position on the landform:* Filled depressions

*Slope range:* 0 to 2 percent

*Parent material:* Various soil material

*Flooding:* None

*Ponding:* None

*General description:* The Udorthents consist of fill material that has been placed in wet depressional areas to match the adjoining upland landscape. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

### **U2A—Udorthents, wet substratum, 0 to 2 percent slopes**

#### ***Component Description***

#### **Udorthents, wet substratum**

*Extent:* 100 percent of the unit

*Geomorphic setting:* Outwash plains, moraines, and stream terraces

*Position on the landform:* Filled depressions

*Slope range:* 0 to 2 percent

*Parent material:* Various soil material

*Flooding:* None

*Ponding:* None

*General description:* The Udorthents consist of fill material that has been placed in wet depressional areas to match the adjoining upland landscape. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

### **U3B—Udorthents (cut and fill land), 0 to 6 percent slopes**

#### ***Component Description***

#### **Udorthents (cut and fill land)**

*Extent:* 100 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 0 to 6 percent

*Parent material:* Various loamy material

*Flooding:* None

*Ponding:* None

*General description:* Udorthents consist primarily of areas that have been cut for leveling or filled for development. The cut and/or fill material is dominantly loamy soil material. As much as 30 percent of this map unit is covered by impervious surfaces. Most of the areas have been disturbed by construction activity. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

#### **U4A—Urban land-Udipsamments (cut and fill land) complex, 0 to 2 percent slopes**

##### ***Component Description***

##### **Urban land**

*Extent:* 65 to 85 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Slope range:* 0 to 2 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of industrial parks, office buildings, warehouses, and railroad yards and is covered by impervious surfaces. Most areas were originally wet, mineral or organic soils in depressions. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

##### **Udipsamments (cut and fill land)**

*Extent:* 15 to 50 percent of the unit

*Geomorphic setting:* Outwash plains and stream terraces

*Slope range:* 0 to 2 percent

*Parent material:* Various sandy material

*Flooding:* None

*Ponding:* None

*General description:* The Udipsamments consist of nearly level areas that have undergone minimal grading. The cut and fill material is dominantly sandy. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **U5A—Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes, rarely flooded**

##### ***Component Description***

##### **Urban land**

*Extent:* 35 to 85 percent of the unit

*Geomorphic setting:* Flood plains

*Slope range:* 0 to 2 percent

*Flooding does not occur (months):* January, February, March, July, August, September, October, November, December

*Flooding is most likely (frequency, months):* Rare (April, May, June)

*Ponding:* None

*General description:* Urban land consists mainly of commercial and residential areas and is covered by impervious surfaces. Most areas have been disturbed to some degree by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

##### **Udorthents, wet substratum**

*Extent:* 15 to 50 percent of the unit

*Geomorphic setting:* Flood plains

*Position on the landform:* Filled areas

*Slope range:* 0 to 2 percent

*Parent material:* Various soil material

*Flooding does not occur (months):* January, February, March, July, August, September, October, November, December

*Flooding is most likely (frequency, months):* Rare (April, May, June)

*Ponding:* None

*General description:* The Udorthents consist of fill material that has been placed in wet areas on flood plains to match the adjoining upland landscape. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

#### **U6B—Urban land-Udorthents (cut and fill land) complex, 0 to 6 percent slopes**

##### ***Component Description***

##### **Urban land**

*Extent:* 35 to 80 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 0 to 6 percent

*Flooding:* None

*Ponding:* None

*General description:* Urban land consists mainly of residential areas, industrial parks, office buildings, warehouses, railroad yards, and freeway interchanges and is covered by impervious surfaces. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

*General description:* Udorthents consist primarily of areas that have been cut for leveling or filled for development. The cut and/or fill material is dominantly loamy soil material. As much as 30 percent of this component is covered by impervious surfaces. Most areas have been disturbed by construction activity. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

### Udorthents (cut and fill land)

*Extent:* 20 to 65 percent of the unit

*Geomorphic setting:* Moraines

*Slope range:* 0 to 6 percent

*Parent material:* Various loamy material

*Flooding:* None

*Ponding:* None

### W—Water

#### Component Description

- This map unit consists of naturally occurring bodies of water or bodies of water that have been impounded by structures in natural waterways.

Table 2.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
D1B	Anoka and Zimmerman soils, terrace, 2 to 6 percent slopes-----	1,122	0.3
D1C	Anoka and Zimmerman soils, terrace, 6 to 12 percent slopes-----	295	*
D2A	Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded-----	506	0.1
D3A	Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded----	472	0.1
D4A	Dorset sandy loam, 0 to 2 percent slopes-----	1,667	0.4
D4B	Dorset sandy loam, 2 to 6 percent slopes-----	423	0.1
D4C	Dorset sandy loam, 6 to 12 percent slopes-----	148	*
D5B	Dorset-Two Inlets complex, 2 to 6 percent slopes-----	171	*
D5C	Dorset-Two Inlets complex, 6 to 12 percent slopes-----	68	*
D5D	Dorset-Two Inlets complex, 12 to 18 percent slopes-----	31	*
D6A	Verndale sandy loam, acid substratum, 0 to 2 percent slopes-----	1,638	0.4
D6B	Verndale sandy loam, acid substratum, 2 to 6 percent slopes-----	362	*
D6C	Verndale sandy loam, acid substratum, 6 to 12 percent slopes-----	10	*
D7A	Hubbard loamy sand, 0 to 2 percent slopes-----	4,455	1.1
D7B	Hubbard loamy sand, 2 to 6 percent slopes-----	3,173	0.8
D7C	Hubbard loamy sand, 6 to 12 percent slopes-----	674	0.2
D8B	Sandberg loamy coarse sand, 2 to 6 percent slopes-----	26	*
D8C	Sandberg loamy coarse sand, 6 to 12 percent slopes-----	146	*
D8D	Sandberg loamy coarse sand, 12 to 18 percent slopes-----	212	*
D8E	Sandberg loamy coarse sand, 18 to 35 percent slopes-----	478	0.1
D10A	Forada sandy loam, 0 to 2 percent slopes-----	1,535	0.4
D11A	Lindaas silt loam, 0 to 2 percent slopes-----	39	*
D12B	Bygland silt loam, MAP >25, 2 to 6 percent slopes-----	80	*
D12C2	Bygland silt loam, MAP >25, 6 to 12 percent slopes, eroded-----	6	*
D13A	Langola loamy fine sand, terrace, 0 to 2 percent slopes-----	302	*
D13B	Langola loamy fine sand, terrace, 2 to 6 percent slopes-----	91	*
D15A	Seelyeville-Markey complex, depressional, 0 to 1 percent slopes-----	38	*
D16A	Seelyeville and Markey soils, ponded, 0 to 1 percent slopes-----	1,175	0.3
D17A	Duelm loamy sand, 0 to 2 percent slopes-----	1,997	0.5
D18B	Braham loamy fine sand, terrace, 2 to 5 percent slopes-----	155	*
D19A	Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded----	466	0.1
D20A	Isan sandy loam, 0 to 2 percent slopes-----	4,336	1.1
D21A	Isan sandy loam, depressional, 0 to 1 percent slopes-----	317	*

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
D23A	Southhaven loam, 0 to 2 percent slopes-----	117	*
D24A	Sedgeville loam, 0 to 2 percent slopes, occasionally flooded-----	43	*
D25A	Soderville loamy fine sand, terrace, 0 to 3 percent slopes-----	1,911	0.5
D26A	Foldahl loamy sand, MAP >25, 0 to 3 percent slopes-----	282	*
D27A	Dorset sandy loam, loamy substratum, 0 to 2 percent slopes-----	153	*
D28B	Urban land-Bygland, MAP >25, complex, 1 to 6 percent slopes-----	1,227	0.3
D29B	Urban land-Hubbard, bedrock substratum, complex, 0 to 8 percent slopes---	558	0.1
D30A	Seelyeville and Markey soils, depressional, 0 to 1 percent slopes-----	1,137	0.3
D31A	Urban land-Duelm complex, 0 to 2 percent slopes-----	2,567	0.7
D33B	Urban land-Dorset complex, 0 to 8 percent slopes-----	2,887	0.7
D33C	Urban land-Dorset complex, 8 to 18 percent slopes-----	105	*
D34B	Urban land-Hubbard complex, 0 to 8 percent slopes-----	15,060	3.9
D35A	Elkriver-Fordum complex, 0 to 2 percent slopes, occasionally flooded-----	190	*
D37F	Dorset, bedrock substratum-Rock outcrop complex, 25 to 65 percent slopes	223	*
D40A	Kratka loamy fine sand, thick solum, 0 to 2 percent slopes-----	298	*
D41C	Urban land-Waukon complex, 6 to 18 percent slopes-----	33	*
D43A	Gonvick loam, terrace, 1 to 3 percent slopes-----	34	*
GP	Pits, gravel-Udipsammments complex-----	1,664	0.4
L2B	Malardi-Hawick complex, 1 to 6 percent slopes-----	4,303	1.1
L2C	Malardi-Hawick complex, 6 to 12 percent slopes-----	2,922	0.8
L2D	Malardi-Hawick complex, 12 to 18 percent slopes-----	1,151	0.3
L2E	Malardi-Hawick complex, 18 to 35 percent slopes-----	1,199	0.3
L3A	Rasset sandy loam, 0 to 2 percent slopes-----	86	*
L3B	Rasset sandy loam, 2 to 6 percent slopes-----	895	0.2
L3C	Rasset sandy loam, 6 to 12 percent slopes-----	623	0.2
L4B	Crowfork loamy sand, 1 to 6 percent slopes-----	705	0.2
L4C	Crowfork loamy sand, 6 to 12 percent slopes-----	916	0.2
L4D	Crowfork loamy sand, 12 to 18 percent slopes-----	651	0.2
L6A	Biscay loam, 0 to 2 percent slopes-----	465	0.1
L7A	Biscay loam, depressional, 0 to 1 percent slopes-----	73	*
L8A	Darfur sandy loam, 0 to 2 percent slopes-----	98	*
L9A	Minnetonka silty clay loam, 0 to 2 percent slopes-----	1,427	0.4
L10B	Kasota silty clay loam, 1 to 6 percent slopes-----	95	*
L11B	Grays very fine sandy loam, 2 to 8 percent slopes-----	471	0.1
L12A	Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes, frequently flooded-----	1,953	0.5
L13A	Klossner muck, depressional, 0 to 1 percent slopes-----	389	0.1
L14A	Houghton muck, depressional, 0 to 1 percent slopes-----	927	0.2
L15A	Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes-----	468	0.1
L16A	Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes---	10,064	2.6
L17B	Angus-Malardi complex, 2 to 6 percent slopes-----	906	0.2
L18A	Shields silty clay loam, 0 to 3 percent slopes-----	283	*
L19B	Moon loamy fine sand, 2 to 5 percent slopes-----	324	*
L20B	Fedji loamy fine sand, silty substratum, 2 to 8 percent slopes-----	202	*
L21A	Canisteo loam, 0 to 2 percent slopes-----	236	*
L22C2	Lester loam, morainic, 6 to 12 percent slopes, eroded-----	27,724	7.1
L22D2	Lester loam, morainic, 12 to 18 percent slopes, eroded-----	9,316	2.4
L22E	Lester loam, morainic, 18 to 25 percent slopes-----	3,506	0.9
L22F	Lester loam, morainic, 25 to 35 percent slopes-----	1,958	0.5
L23A	Cordova loam, 0 to 2 percent slopes-----	15,159	3.9
L24A	Glencoe loam, depressional, 0 to 1 percent slopes-----	6,986	1.8
L25A	Le Sueur loam, 1 to 3 percent slopes-----	6,390	1.6
L26A	Shorewood silty clay loam, 0 to 3 percent slopes-----	436	0.1
L26B	Shorewood silty clay loam, 3 to 6 percent slopes-----	991	0.3
L26C2	Shorewood silty clay loam, 6 to 12 percent slopes, eroded-----	169	*
L27A	Suckercreek loam, 0 to 2 percent slopes, frequently flooded-----	868	0.2
L28A	Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded	871	0.2
L29A	Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded-----	117	*
L30A	Medo soils, depressional, 0 to 1 percent slopes-----	842	0.2
L31A	Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes-----	246	*
L32D	Hawick loamy sand, 12 to 18 percent slopes-----	102	*
L32F	Hawick loamy sand, 18 to 40 percent slopes-----	1,617	0.4
L35A	Lerdal loam, 1 to 3 percent slopes-----	1,607	0.4

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes-----	15,504	4.0
L37B	Angus loam, morainic, 2 to 5 percent slopes-----	25,459	6.5
L38A	Rushriver very fine sandy loam, 0 to 2 percent slopes, occasionally flooded-----	811	0.2
L39A	Minneiska fine sandy loam, 0 to 2 percent slopes, occasionally flooded---	1,111	0.3
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes-----	6,800	1.7
L41C2	Lester-Kilkenny complex, 6 to 12 percent slopes, eroded-----	8,795	2.3
L41D2	Lester-Kilkenny complex, 12 to 18 percent slopes, eroded-----	4,318	1.1
L41E	Lester-Kilkenny complex, 18 to 25 percent slopes-----	1,681	0.4
L41F	Lester-Kilkenny complex, 25 to 35 percent slopes-----	430	0.1
L42B	Kingsley-Gotham complex, 2 to 6 percent slopes-----	460	0.1
L42C	Kingsley-Gotham complex, 6 to 12 percent slopes-----	954	0.2
L42D	Kingsley-Gotham complex, 12 to 18 percent slopes-----	660	0.2
L42E	Kingsley-Gotham complex, 18 to 25 percent slopes-----	443	0.1
L42F	Kingsley-Gotham complex, 25 to 35 percent slopes-----	602	0.2
L43A	Brouillett loam, 0 to 2 percent slopes, occasionally flooded-----	387	*
L44A	Nessel loam, 1 to 3 percent slopes-----	6,849	1.8
L45A	Dundas-Cordova complex, 0 to 3 percent slopes-----	3,593	0.9
L46A	Tomall loam, 0 to 2 percent slopes-----	743	0.2
L47A	Eden Prairie sandy loam, 0 to 2 percent slopes-----	590	0.2
L47B	Eden Prairie sandy loam, 2 to 6 percent slopes-----	999	0.3
L47C	Eden Prairie sandy loam, 6 to 12 percent slopes-----	733	0.2
L49A	Klossner soils, depressional, 0 to 1 percent slopes-----	3,581	0.9
L50A	Houghton and Muskego soils, depressional, 0 to 1 percent slopes-----	12,987	3.3
L52C	Urban land-Lester complex, 2 to 18 percent slopes-----	11,105	2.9
L52E	Urban land-Lester complex, 18 to 35 percent slopes-----	694	0.2
L53B	Urban land-Moon complex, 2 to 8 percent slopes-----	363	*
L54A	Urban land-Dundas complex, 0 to 3 percent slopes-----	1,328	0.3
L55B	Urban land-Malardi complex, 0 to 8 percent slopes-----	12,043	3.1
L55C	Urban land-Malardi complex, 8 to 18 percent slopes-----	3,142	0.8
L56A	Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded---	1,396	0.4
L58B	Koronis-Kingsley complex, 2 to 6 percent slopes-----	1,575	0.4
L58C2	Koronis-Kingsley complex, 6 to 12 percent slopes, eroded-----	1,237	0.3
L58D2	Koronis-Kingsley complex, 12 to 18 percent slopes, eroded-----	321	*
L58E	Koronis-Kingsley complex, 18 to 25 percent slopes-----	234	*
L59A	Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes-----	671	0.2
L60B	Angus-Moon complex, 2 to 5 percent slopes-----	1,440	0.4
L61C2	Lester-Metea complex, 6 to 12 percent slopes, eroded-----	1,996	0.5
L61D2	Lester-Metea complex, 12 to 18 percent slopes, eroded-----	583	0.1
L61E	Lester-Metea complex, 18 to 25 percent slopes-----	395	0.1
L62B	Koronis-Kingsley-Malardi complex, 2 to 6 percent slopes-----	139	*
L62C2	Koronis-Kingsley-Malardi complex, 6 to 12 percent slopes, eroded-----	714	0.2
L62D2	Koronis-Kingsley-Malardi complex, 12 to 18 percent slopes, eroded-----	135	*
L62E	Koronis-Kingsley-Malardi complex, 18 to 35 percent slopes-----	764	0.2
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes-----	1,325	0.3
L70C2	Lester-Malardi complex, 6 to 12 percent slopes, eroded-----	2,288	0.6
L70D2	Lester-Malardi complex, 12 to 18 percent slopes, eroded-----	622	0.2
L70E	Lester-Malardi complex, 18 to 35 percent slopes-----	584	0.2
L71C	Metea loamy fine sand, 6 to 12 percent slopes-----	175	*
L72A	Lundlake loam, depressional, 0 to 1 percent slopes-----	48	*
L110E	Lester-Ridgeton complex, 18 to 25 percent slopes-----	17	*
L110F	Lester-Ridgeton complex, 25 to 45 percent slopes-----	111	*
L131A	Litchfield loamy fine sand, 0 to 3 percent slopes-----	56	*
L132A	Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes-----	3,207	0.8
M-W	Water, miscellaneous-----	457	0.1
U1A	Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes---	12,415	3.2
U2A	Udorthents, wet substratum, 0 to 2 percent slopes-----	4,938	1.3
U3B	Udorthents (cut and fill land), 0 to 6 percent slopes-----	1,527	0.4
U4A	Urban land-Udipsamments (cut and fill land) complex, 0 to 2 percent slopes-----	14,091	3.6
U5A	Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes, rarely flooded-----	665	0.2

See footnote at end of table.



Table 2.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
U6B	Urban land-Udorthents (cut and fill land) complex, 0 to 6 percent slopes	9,780	2.5
W	Water-----	32,089	8.2
	Total-----	389,000	100.0

\* Less than 0.1 percent.

# Use and Management of the Soils

---

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forest land; as sites for buildings, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and

indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

## Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## Crops and Pasture

General management needed for crops and for hay and pasture is suggested in this section. Climate information for the survey area is provided, the estimated yields of the main crops and hay and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described. Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

## Climate

Table 3 gives data on temperature and precipitation for the survey area as recorded at the Minneapolis-St. Paul International Airport during the period from 1961 to 1990. Table 4 shows probable dates of the first freeze in fall and the last freeze in spring. Table 5 provides data on length of the growing season.

In winter, the average temperature is 15.6 degrees F and the average daily minimum temperature is 7.1 degrees. The lowest temperature during the period of record is -34 degrees. In summer, the average temperature is 71 degrees and the average daily maximum temperature is 81 degrees. The highest recorded temperature is 105 degrees.

Growing degree days are shown in table 3. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 28 inches. Of this total, about 20 inches, or 70 percent, usually falls in April through September. The growing season for most crops falls within this period.

The average seasonal snowfall is about 56 inches. On an average, 97 days per year have at least 1 inch of snow on the ground.

## Cropland Management Considerations

The management concerns affecting the use of the soil map units in the survey area for crops are shown in table 6. The main concerns in managing nonirrigated cropland are conserving moisture, controlling wind erosion and water erosion, and maintaining soil fertility.

*Conserving moisture* consists primarily of reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Generally, a combination of several practices is needed to control *wind erosion* and *water erosion*. Conservation tillage, stripcropping, field windbreaks, contour farming, conservation cropping systems, crop residue management, terraces, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining *soil fertility* include applying fertilizer, both organic and

inorganic, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled. All soils used for nonirrigated crops respond well to applications of fertilizer.

Some of the considerations shown in the table cannot be easily overcome. These are channels, flooding, gullies, and ponding.

Additional considerations are as follows:

*Lime content, limited available water capacity, limited content of organic matter, potential poor tilth and compaction, and restricted permeability.*—These limitations can be minimized by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer to soils that have a high content of lime.

*Potential for ground-water contamination.*—The proper use of nutrients and pesticides can reduce the risk of ground-water contamination.

*Potential for surface-water contamination.*—The risk of surface-water contamination can be reduced by the proper use of nutrients and pesticides and by conservation farming practices that reduce the runoff rate.

*Surface crusting.*—This limitation retards seedling development after periods of heavy rainfall.

*Surface rock fragments.*—This limitation causes rapid wear of tillage equipment. It cannot be easily overcome.

*Surface stones.*—Stones or boulders on or near the surface can hinder normal tillage unless they are removed.

*Salt content.*—In areas where this is a limitation, only salt-tolerant crops should be grown.

On irrigated soils the main management concerns are efficient water use, nutrient management, control of erosion, pest and weed control, and timely planting and harvesting for a successful crop. An irrigation system that provides optimum control and distribution of water at minimum cost is needed. Overirrigation wastes water, leaches plant nutrients, and causes erosion. Also, it can increase wetness and soil salinity.

## Explanation of Criteria

*Acid soil.*—The pH is less than 6.1.

*Channeled.*—The word "channeled" is included in the map unit name.

*Dense layer.*—The bulk density is 1.80 g/cc or greater within the soil profile.

*Depth to rock.*—The depth to bedrock is less than 40 inches.

*Eroded.*—The word “eroded” is included in the map unit name.

*Excessive permeability.*—Saturated hydraulic conductivity is 42 micrometers per second or more within the soil profile.

*Flooding.*—Flooding is occasional, frequent, or very frequent.

*Gullied.*—The word “gullied” is included in the map unit name.

*High content of organic matter.*—The surface layer has more than 20 percent organic matter.

*Lime content.*—The pH is 7.4 or more in the surface layer, or the wind erodibility group is 4L.

*Limited available water capacity.*—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

*Limited content of organic matter.*—The content of organic matter is 2 percent or less in the surface layer.

*Ponding.*—Ponding duration is assigned to the soil. Water is above the surface.

*Potential poor tilth and compaction.*—The content of clay is 27 percent or more in the surface layer.

*Potential for ground-water contamination (by nutrients or pesticides).*—The depth to a zone in which the soil moisture status is wet is 4 feet or less, the saturated hydraulic conductivity of any layer is more than 42 micrometers per second, or the depth to bedrock is less than 60 inches.

*Potential for surface-water contamination (by nutrients or pesticides).*—The soil is occasionally, frequently, or very frequently flooded, is subject to ponding, is assigned to hydrologic group C or D and has a slope of more than 2 percent, is assigned to hydrologic group A and has a slope of more than 6 percent, or is assigned to hydrologic group B, has a slope of 3 percent or more, and has a K factor of more than 0.17.

*Previously eroded.*—The word “eroded” is included in the map unit name.

*Restricted permeability.*—Saturated hydraulic conductivity is less than 0.42 micrometer per second within the soil profile.

*Salt content.*—The electrical conductivity is 4 or more in the surface layer or 8 or more within a depth of 30 inches.

*Slope (equipment limitation).*—The slope is more than 15 percent.

*Surface crusting.*—The content of clay is 27 percent or more and the content of organic matter is 2 percent or less in the surface layer.

*Surface rock fragments (equipment limitation).*—The terms describing the texture of the surface layer

include any rock fragment modifier, except for gravelly, channery, stony, very stony, extremely stony, bouldery, very bouldery, and extremely bouldery.

*Surface stones (equipment limitation).*—The word “stony” or “bouldery” is included in the description of the surface layer, or 0.01 percent or more of the surface is covered by boulders.

*Water erosion.*—Either the slope is 6 percent or more, or the slope is more than 3 percent and less than 6 percent and the surface layer is not sandy.

*Wet soil moisture status.*—A zone in which the soil moisture status is wet is within 2.5 feet of the surface.

*Wind erosion.*—The wind erodibility group is 1, 2, 3, or 4L.

Hydrologic groups are described under the heading “Water Features.” Erosion factors (e.g., K factor) and wind erodibility groups are described under the heading “Physical and Chemical Properties.”

## Crop Yield Estimates

The average yields per acre that can be expected of the principal crops and hay and pasture plants under a high level of management are shown in tables 7a and 7b. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the tables.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is

developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the tables are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

### Pasture and Hayland Interpretations

Soils are assigned to forage suitability groups according to their suitability for the production of forage vegetation. The soils in each group are similar enough to be suited to the same species of grasses or legumes, have similar limitations and hazards, require similar management, and have similar productivity levels and other responses to management. The forage suitability groups of the soils in the survey area are listed in table 8. Detailed descriptions of forage suitability groups are available at local offices of the Natural Resources Conservation Service.

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in tables 7a and 7b.

### Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects.

Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland or for engineering purposes.

In the capability system, soils generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7.

Areas in class 8 are generally not suitable for crops, pasture, or woodland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

*Capability subclasses* identify the dominant kind of limitation in the class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no



erosion. They have other limitations that restrict their use mainly to pasture, woodland, wildlife habitat, or recreation.

The capability classification of map units in the survey area is given in the yields tables.

## Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or woodland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils in which a saturated zone is high in the profile or soils that are subject to flooding may qualify as

prime farmland where these limitations are overcome by drainage measures or flood control. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 108,680 acres, or nearly 28 percent of the survey area, meets the requirements for prime farmland.

The map units in the survey area that meet the requirements for prime farmland are listed in table 9. This list does not constitute a recommendation for a particular land use. On some soils included in the table, measures that overcome limitations are needed. The need for these measures is indicated in parentheses after the map unit name. The location of each map unit is shown on the soil maps. The soil qualities that affect use and management are described in the section "Soil Map Unit Descriptions."

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how trees perform on such land can be gained only by observing and recording the performance of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and

physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under a given climate. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in this table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from local offices of the Natural Resources Conservation Service or the Cooperative Extension Service or from a nursery.

## Windbreak Suitability Groups

Windbreak suitability groups consist of soils in which the kinds and degrees of the hazards and limitations that affect the survival and growth of trees and shrubs in windbreaks are about the same. The windbreak suitability groups assigned to the soils in the survey area are listed in table 11.

*Group 1* consists of soils that are somewhat poorly drained or moderately well drained, are rapidly permeable to moderately slowly permeable, and do not have free carbonates in the upper 20 inches.

*Group 1K* consists of soils that are somewhat poorly drained or moderately well drained, are rapidly permeable to moderately slowly permeable, and have free carbonates within 20 inches of the surface. These soils may be very slightly saline or slightly saline (the electrical conductivity is 2 to 8).

*Group 2* consists of poorly drained soils that have been artificially drained and do not have free carbonates in the upper 20 inches. Permeability varies.

*Group 2H* consists of very poorly drained soils that have been artificially drained and have more than 16 inches of organic material. Permeability varies.

*Group 2K* consists of poorly drained or very poorly drained soils that have been artificially drained and have free carbonates within 20 inches of the surface. Permeability varies. These soils may be very slightly saline or slightly saline (the electrical conductivity is 2 to 8).

*Group 2W* consists of very poorly drained soils that are subject to ponding and have been artificially drained. It includes soils that have an organic surface layer up to 16 inches thick. Permeability varies.

*Group 3* consists of soils that are well drained or

moderately well drained and are loamy or silty throughout. Permeability is moderate or moderately slow. These soils do not have free carbonates in the upper 20 inches.

*Group 4* consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a silty or loamy surface layer and a clayey subsoil. Permeability is slow or very slow.

*Group 4C* consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a clayey surface layer and subsoil. Permeability is slow or very slow.

*Group 4F* consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a substratum of dense till. Permeability is slow or very slow.

*Group 5* consists of soils that are excessively drained to moderately well drained and have a moderate available water capacity. These soils are dominantly fine sandy loam or sandy loam, but some are sandy in the upper part and loamy in the lower part.

*Group 6D* consists of excessively drained to moderately well drained, loamy soils that have bedrock at a depth of 20 to 40 inches. These soils have a low or moderate available water capacity.

*Group 6G* consists of excessively drained to moderately well drained soils that are loamy in the upper part and have sand or sand and gravel at a depth of 20 to 40 inches. These soils have a low or moderate available water capacity.

*Group 7* consists of excessively drained to well drained soils that are dominantly loamy fine sand or coarser textured and are shallow to sand or to sand and gravel. These soils have a low available water capacity.

*Group 8* consists of excessively drained to well drained, loamy soils that have free carbonates within 20 inches of the surface.

*Group 9W* consists of soils that are somewhat poorly drained, poorly drained, or very poorly drained and are moderately saline (the electrical conductivity is 8 to 16).

*Group 10* consists of soils or miscellaneous areas that generally are not suitable for windbreaks. One or more characteristics, such as soil depth, texture, wetness, available water capacity, or slope, limit the planting, survival, or growth of trees and shrubs.

## Recreation

The soils of the survey area are rated in tables 12a and 12b according to limitations that affect their suitability for recreation. The ratings are both verbal

and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses.

*Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

*Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

*Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in the tables can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp

areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These

properties are stoniness, depth to a zone in which the soil moisture status is wet, ponding, flooding, slope, and texture of the surface layer.

*Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a zone in which the soil moisture status is wet, ponding, flooding, and texture of the surface layer.

*Golf fairways* are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a zone in which the soil moisture status is wet; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

## Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. If food, cover, or water is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area.

If the soils have potential for habitat development, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In table 13, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or

maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

*Grain and seed crops* are domestic grains and seed-producing herbaceous plants used by wildlife. Examples are corn, soybeans, wheat, oats, and barley.

*Grasses and legumes* are domestic perennial grasses and herbaceous legumes planted for wildlife food and cover. Examples are brome grass, timothy, orchard grass, clover, alfalfa, and wheat grass.

*Wild herbaceous plants* are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Examples are bluestems, indiagrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, and wheat grass.

The major soil properties affecting the growth of grain and forage crops and wild herbaceous plants are depth of the root zone, texture of the surface layer, the amount of water available to plants, wetness, salinity, and flooding. The length of the growing season also is important.

*Hardwood trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage that wildlife eat. Examples are oak, poplar, hickory, birch, maple, green ash, willow, and American elm.

*Coniferous plants* are cone-bearing trees, shrubs, or ground cover that provide habitat or supply food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, and tamarack.

The major soil properties affecting the growth of hardwood and coniferous trees and shrubs are depth of the root zone, the amount of water available to plants, and wetness.

*Wetland plants* are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Wetland plants produce food or cover for wetland wildlife. Examples of these plants are smartweeds,



wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, cattail, prairie cordgrass, bluejoint grass, asters, and beggarticks.

The major soil properties affecting wetland plants are texture of the surface layer, wetness, acidity or alkalinity, and slope.

*Shallow water areas* have an average depth of less than 5 feet. They are useful as habitat for some wildlife species. They are naturally wet areas or are created by dams, levees, or water-control measures in marshes or streams. Examples are waterfowl feeding areas, wildlife watering developments, beaver ponds, and other wildlife ponds.

The major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability.

The habitat for various kinds of wildlife is described in the following paragraphs.

*Habitat for openland wildlife* consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, and shrubs. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include Hungarian partridge, ring-necked pheasant, bobwhite quail, sharp-tailed grouse, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

*Habitat for woodland wildlife* consists of areas of hardwoods or conifers or a mixture of these and associated grasses, legumes, and wild herbaceous plants. The wildlife attracted to this habitat include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, porcupine, raccoon, and white-tailed deer.

*Habitat for wetland wildlife* consists of open, marshy or swampy shallow water areas, bogs, or flood plains that support water-tolerant plants. The wildlife attracted to this habitat include ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, mink, and beaver.

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and*

*construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a zone in which the soil moisture status is wet, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, linear extensibility, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.



## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 14a and 14b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development.

*Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

*Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

*Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the

Unified classification. The properties that affect the ease and amount of excavation include depth to a zone in which the soil moisture status is wet, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a zone in which the soil moisture status is wet, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a zone in which the soil moisture status is wet, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to a zone in which the soil moisture

status is wet, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to a zone in which the soil moisture status is wet, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a zone in which the soil moisture status is wet; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Construction Materials

Tables 15a and 15b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 15a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of good or fair means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that

the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In table 15b, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a zone in which the soil moisture status is wet, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading,

and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a zone in which the soil moisture status is wet, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a zone in which the soil moisture status is wet, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

## Water Management

Table 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses.

*Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

*Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

*Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They

indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A seasonal zone in which the soil moisture status is wet affects the amount of usable material. It also affects trafficability.

*Aquifer-fed excavated ponds* are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent zone in which the soil moisture status is wet. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent zone in which the soil moisture status is wet, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 3.--Temperature and Precipitation  
(Recorded in the period 1961-90 at Minneapolis-St. Paul, Minnesota)

	Temperature						Precipitation				
Month				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	20.6	2.6	11.6	46	-28	0	0.96	0.39	1.43	3	12.5
February---	26.4	8.8	17.6	51	-23	2	.89	.34	1.35	2	9.2
March-----	39.1	22.3	30.7	72	-9	39	1.94	1.09	2.70	4	11.6
April-----	56.5	35.9	46.2	86	15	232	2.45	1.17	3.56	5	3.6
May-----	69.4	47.6	58.5	92	28	575	3.40	1.93	4.70	7	.1
June-----	78.8	57.5	68.2	97	41	845	4.05	1.84	5.94	7	.0
July-----	83.9	63.0	73.5	99	48	1,036	3.53	1.63	5.17	5	.0
August-----	80.6	60.1	70.4	97	44	940	3.62	2.03	5.03	6	.0
September--	70.6	50.2	60.4	92	30	612	2.72	1.35	3.91	6	.0
October----	58.8	38.8	48.8	84	20	292	2.19	.78	3.36	4	.4
November---	41.0	25.1	33.1	67	-2	46	1.55	.50	2.42	3	7.3
December---	25.5	10.0	17.8	51	-20	2	1.08	.48	1.60	3	11.3
Yearly:											
Average---	54.3	35.2	44.7	---	---	---	---	---	---	---	---
Extreme---	105	-34	---	100	-29	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,619	28.37	22.63	33.81	55	55.9

\* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 4.--Freeze Dates in Spring and Fall  
(Recorded in the period 1961-90 at Minneapolis-St. Paul,  
Minnesota)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 20	May 5	May 15
2 years in 10 later than--	Apr. 16	Apr. 29	May 10
5 years in 10 later than--	Apr. 7	Apr. 19	May 1
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 14	Sept. 26	Sept. 19
2 years in 10 earlier than--	Oct. 20	Oct. 2	Sept. 24
5 years in 10 earlier than--	Oct. 30	Oct. 14	Oct. 4

Table 5.--Growing Season  
(Recorded in the period 1961-90 at Minneapolis-  
St. Paul, Minnesota)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	184	152	137
8 years in 10	191	161	143
5 years in 10	204	178	155
2 years in 10	217	195	167
1 year in 10	224	204	173



Table 6.--Cropland Management Considerations

(See text for a description of the considerations listed in this table. Absence of an entry indicates that the map unit or component is generally not suited to use as cropland)

Map symbol and component name	Pct. of map unit	Cropland management considerations
D1B:		
Anoka, terrace-----	55	Limited available water capacity Potential for ground-water contamination Wind erosion
Zimmerman, terrace-----	40	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
Kost-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D1C:		
Anoka, terrace-----	45	Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Zimmerman, terrace-----	45	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Kost-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
D2A:		
Elkriver, rarely flooded----	85	Excessive permeability Potential for ground-water contamination Wind erosion
Mosford, rarely flooded----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Elkriver, occasionally flooded-----	5	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D3A: Elkriver, occasionally flooded-----	80	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Fordum, frequently flooded---	15	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Winterfield, occasionally flooded-----	5	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
D4A: Dorset-----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Verndale, acid substratum---	8	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Almora-----	2	Excessive permeability Potential for ground-water contamination
D4B: Dorset-----	85	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Verndale, acid substratum---	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Almora-----	5	Excessive permeability Potential for ground-water contamination
D4C: Dorset-----	75	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D4C:		
Verndale, acid substratum----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Almora-----	10	Excessive permeability Potential for ground-water contamination
D5B:		
Dorset-----	65	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Two Inlets-----	25	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
Verndale, acid substratum----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Southhaven-----	5	Excessive permeability Potential for ground-water contamination
D5C:		
Dorset-----	55	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Two Inlets-----	30	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Southhaven-----	10	Excessive permeability Potential for ground-water contamination
Verndale, acid substratum----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D5D:		
Dorset-----	50	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Two Inlets-----	35	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Southhaven-----	10	Excessive permeability Potential for ground-water contamination
Verndale, acid substratum----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
D6A:		
Verndale, acid substratum----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Dorset-----	7	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Hubbard-----	3	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D6B:		
Verndale, acid substratum----	85	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Dorset-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D6C:		
Verndale, acid substratum----	80	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Dorset-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
D7A:		
Hubbard-----	95	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Mosford-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D7B:		
Hubbard-----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Mosford-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D7C:		
Hubbard-----	80	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Sandberg-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Mosford-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D8B: Sandberg-----	95	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Arvilla, MAP >25-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D8C: Sandberg-----	80	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Corliss-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Southhaven-----	5	Excessive permeability Potential for ground-water contamination
D8D: Sandberg-----	80	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Corliss-----	10	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Southhaven-----	10	Excessive permeability Potential for ground-water contamination
D8E: Sandberg-----	80	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Corliss-----	10	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D8E: Southhaven-----	10	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination
D10A: Forada-----	95	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Depressional soil-----	5	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
D11A: Lindaas-----	80	Potential for ground-water contamination Wet soil moisture status
Lindaas, sandy substratum----	10	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Depressional soil-----	10	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
D12B: Bygland, MAP >25-----	70	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Bygland, sandy substratum----	15	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Lindaas-----	10	Potential for ground-water contamination Wet soil moisture status
Depressional soil-----	5	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
D12C2: Bygland, MAP >25-----	70	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Bygland, sandy substratum----	15	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D12C2: Lindaas-----	10	Potential for ground-water contamination Previously eroded Wet soil moisture status
Depressional soil-----	5	Ponding Potential for ground-water contamination Potential for surface-water contamination Previously eroded Wet soil moisture status
D13A: Langola, terrace-----	85	Dense layer Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
Duelm-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D13B: Langola, terrace-----	85	Dense layer Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Hubbard-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Duelm-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D15A: Seelyeville, drained-----	65	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Markey, drained-----	25	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D15A: Mineral soil, drained-----	10	Excessive permeability Limited available water capacity Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
D16A: Seelyeville, ponded-----	45	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Markey, ponded-----	45	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Mineral soil, ponded-----	10	Excessive permeability Limited available water capacity Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
D17A: Duelm-----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Isan-----	8	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
Hubbard-----	2	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D18B: Braham, terrace-----	85	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Duelm-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D19A: Fordum, frequently flooded---	65	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D19A: Winterfield, frequently flooded-----	25	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Fordum, occasionally flooded	10	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
D20A: Isan-----	85	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
Isan, depressional-----	10	Excessive permeability Limited available water capacity Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Duelm-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
D21A: Isan, depressional-----	85	Excessive permeability Limited available water capacity Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Isan-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
D23A: Southhaven-----	90	Excessive permeability Potential for ground-water contamination
Dorset-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Mosford-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D24A: Sedgeville, occasionally flooded-----	85	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Elkriver, occasionally flooded-----	15	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
D25A: Soderville, terrace-----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
Forada-----	10	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
D26A: Foldahl, MAP >25-----	90	Excessive permeability Potential for ground-water contamination Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Isan-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
D27A: Dorset, loamy substratum----	80	Excessive permeability Potential for ground-water contamination Wind erosion
Dorset-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Southhaven-----	5	Excessive permeability Potential for ground-water contamination
D28B: Urban land-----	75	Not applicable
Bygland, MAP >25-----	20	Potential for ground-water contamination Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D28B: Bygland, sandy substratum----	5	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
D29B: Urban land-----	70	Not applicable
Hubbard, bedrock substratum--	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Mosford-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Water erosion Wind erosion
D30A: Seelyeville, surface drained	45	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Markey, surface drained-----	45	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Mineral soil, surface drained	10	Excessive permeability Limited available water capacity Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
D31A: Urban land-----	70	Not applicable
Duelm-----	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D31A: Isan-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion
D33B: Urban land-----	70	Not applicable
Dorset-----	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Verndale, acid substratum----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hubbard-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion
D33C: Urban land-----	70	Not applicable
Dorset-----	20	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Verndale, acid substratum----	5	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hubbard-----	5	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
D34B: Urban land-----	75	Not applicable
Hubbard-----	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D34B: Mosford-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Water erosion Wind erosion
D35A: Elkriver, occasionally flooded-----	70	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Fordum, occasionally flooded	20	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Udipsamments-----	5	Not applicable
Winterfield, occasionally flooded-----	5	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
D37F: Dorset, bedrock substratum---	70	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Rock outcrop-----	20	Not applicable
Hubbard, bedrock substratum--	10	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
D40A: Kratka, thick solum-----	80	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Duelm-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
D40A: Foldahl, MAP >25-----	10	Excessive permeability Potential for ground-water contamination Wind erosion
D41C: Urban land-----	75	Not applicable
Waukon-----	20	Slope Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Braham-----	5	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
D43A: Gonvick, terrace-----	85	Potential for ground-water contamination Wet soil moisture status
Braham-----	15	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
GP: Pits, gravel.  Udipsamments.		
L2B: Malardi-----	65	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hawick-----	25	Excessive permeability Limited available water capacity Potential for ground-water contamination Water erosion Wind erosion
Rasset-----	5	Excessive permeability Potential for ground-water contamination Wind erosion
Eden Prairie-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L2C: Malardi-----	60	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L2C:		
Hawick-----	25	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tomall-----	10	Excessive permeability Potential for ground-water contamination
Crowfork-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L2D:		
Malardi-----	55	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hawick-----	30	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tomall-----	10	Excessive permeability Potential for ground-water contamination
Crowfork-----	5	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L2E:		
Malardi-----	55	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hawick-----	30	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L2E: Tomall-----	15	Excessive permeability Potential for ground-water contamination
L3A: Rasset-----	90	Excessive permeability Potential for ground-water contamination Wind erosion
Malardi-----	8	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Eden Prairie-----	2	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L3B: Rasset-----	80	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Malardi-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Eden Prairie-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L3C: Rasset-----	75	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Malardi-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tomall-----	10	Excessive permeability Potential for ground-water contamination
Eden Prairie-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L4B:		
Crowfork-----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Eden Prairie-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L4C:		
Crowfork-----	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Eden Prairie-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L4D:		
Crowfork-----	85	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Eden Prairie-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L6A:		
Biscay-----	85	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Biscay, depressional-----	10	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Mayer-----	5	Excessive permeability Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
L7A:		
Biscay, depressional-----	80	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Biscay-----	15	Excessive permeability Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L7A: Mayer-----	5	Excessive permeability Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
L8A: Darfur-----	95	Potential for ground-water contamination Wet soil moisture status Wind erosion
Dassel-----	5	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L9A: Minnetonka-----	90	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Depressional soil-----	10	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L10B: Kasota-----	80	Excessive permeability Limited available water capacity Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Eden Prairie-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Wet soil in swales-----	10	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L11B: Grays-----	90	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Kasota-----	5	Excessive permeability Limited available water capacity Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L11B: Crowfork-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L12A: Muskego, frequently flooded--	30	Flooding High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Blue Earth, frequently flooded-----	30	Flooding High content of organic matter Lime content Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Houghton, frequently flooded	30	Flooding High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Oshawa, frequently flooded---	10	Flooding Lime content Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L13A: Klossner, drained-----	80	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Mineral soil, drained-----	15	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Houghton, drained-----	5	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L14A: Houghton, drained-----	80	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L14A:		
Klossner, drained-----	10	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Mineral soil, drained-----	10	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L15A:		
Klossner, ponded-----	30	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Okoboji, ponded-----	30	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Glencoe, ponded-----	30	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Houghton, ponded-----	10	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L16A:		
Muskego, ponded-----	30	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Blue Earth, ponded-----	30	High content of organic matter Lime content Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Houghton, ponded-----	30	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Klossner, ponded-----	10	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L17B:		
Angus-----	50	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Malardi-----	30	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Moon-----	10	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Cordova-----	10	Potential for ground-water contamination Wet soil moisture status
L18A:		
Shields-----	85	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Lerdal-----	10	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Mazaska-----	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L19B:		
Moon-----	85	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Finchford-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L20B:		
Fedji, silty substratum-----	85	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Finchford-----	15	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L21A:		
Canisteco-----	80	Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L21A: Cordova-----	15	Potential for ground-water contamination Wet soil moisture status
Glencoe-----	5	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L22C2: Lester, eroded-----	70	Potential for surface-water contamination Previously eroded Water erosion
Angus-----	15	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Terril-----	12	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel-----	3	Potential for ground-water contamination Previously eroded Wet soil moisture status
L22D2: Lester, eroded-----	80	Slope Potential for surface-water contamination Previously eroded Water erosion
Terril-----	10	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel-----	5	Potential for ground-water contamination Previously eroded Wet soil moisture status
Ridgeton-----	5	Potential for surface-water contamination Previously eroded Water erosion
L22E: Lester, morainic-----	75	Slope Potential for surface-water contamination Water erosion
Terril-----	15	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Hamel-----	5	Potential for ground-water contamination Wet soil moisture status
Ridgeton-----	5	Slope Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L22F: Lester, morainic-----	75	Slope Potential for surface-water contamination Water erosion
Terril-----	10	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Ridgeton-----	10	Slope Potential for surface-water contamination Water erosion
Hamel-----	5	Potential for ground-water contamination Wet soil moisture status
L23A: Cordova-----	85	Potential for ground-water contamination Wet soil moisture status
Glencoe-----	10	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Nessel-----	5	Potential for ground-water contamination
L24A: Glencoe, depressional-----	90	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Cordova-----	10	Potential for ground-water contamination Wet soil moisture status
L25A: Le Sueur-----	80	Potential for ground-water contamination Wet soil moisture status
Cordova-----	15	Potential for ground-water contamination Wet soil moisture status
Angus-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L26A: Shorewood-----	85	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Minnetonka-----	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Good Thunder-----	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L26B:		
Shorewood-----	90	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Good Thunder-----	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Minnetonka-----	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L26C2:		
Shorewood, eroded-----	95	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
Minnetonka-----	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
L27A:		
Suckercreek, frequently flooded-----	85	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Suckercreek, occasionally flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Hanlon, occasionally flooded	5	Flooding Potential for ground-water contamination Potential for surface-water contamination
L28A:		
Suckercreek, occasionally flooded-----	80	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Suckercreek, frequently flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L28A: Hanlon, occasionally flooded	10	Flooding Potential for ground-water contamination Potential for surface-water contamination Wind erosion
L29A: Hanlon, occasionally flooded	80	Flooding Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Suckercreek, occasionally flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Suckercreek, frequently flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L30A: Medo, surface drained-----	65	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Medo, drained-----	20	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Mineral soil, drained-----	15	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L31A: Medo, ponded-----	30	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Dassel, ponded-----	30	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L31A: Biscay, ponded-----	30	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Houghton, ponded-----	5	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Muskego, ponded-----	5	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L32D: Hawick-----	75	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Crowfork-----	15	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tomall-----	10	Excessive permeability Potential for ground-water contamination
L32F: Hawick-----	75	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Crowfork-----	15	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tomall-----	10	Excessive permeability Potential for ground-water contamination
L35A: Lerdal-----	80	Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L35A:		
Mazaska-----	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Cordova-----	5	Potential for ground-water contamination Wet soil moisture status
Le Sueur-----	5	Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L36A:		
Hamel, overwash-----	50	Potential for ground-water contamination Water erosion Wet soil moisture status
Hamel-----	43	Potential for ground-water contamination Wet soil moisture status
Terril-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Glencoe-----	2	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L37B:		
Angus, morainic-----	80	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Angus, eroded-----	10	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Le Sueur-----	5	Potential for ground-water contamination Wet soil moisture status
Cordova-----	5	Potential for ground-water contamination Wet soil moisture status
L38A:		
Rushriver, occasionally flooded-----	75	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Oshawa, frequently flooded---	15	Flooding Lime content Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L38A: Minneiska, occasionally flooded-----	5	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Algansee, occasionally flooded-----	5	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L39A: Minneiska, occasionally flooded-----	70	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Rushriver, occasionally flooded-----	15	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Oshawa, frequently flooded---	10	Flooding Lime content Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Algansee, occasionally flooded-----	5	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L40B: Angus-----	45	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Kilkenny-----	40	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Lerdal-----	10	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L40B: Mazaska-----	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L41C2: Lester, eroded-----	45	Potential for surface-water contamination Previously eroded Water erosion
Kilkenny, eroded-----	40	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Terril-----	10	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Derrynane-----	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
L41D2: Lester, eroded-----	45	Slope Potential for surface-water contamination Previously eroded Water erosion
Kilkenny, eroded-----	35	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Terril-----	10	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Derrynane-----	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
Ridgeton-----	5	Potential for surface-water contamination Previously eroded Water erosion
L41E: Lester-----	45	Slope Potential for surface-water contamination Water erosion
Kilkenny-----	40	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L41E:		
Terril-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Derrynane-----	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Ridgeton-----	5	Slope Potential for surface-water contamination Water erosion
L41F:		
Lester-----	45	Slope Potential for surface-water contamination Water erosion
Kilkenny-----	35	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Ridgeton-----	10	Slope Potential for surface-water contamination Water erosion
Terril-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Derrynane-----	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L42B:		
Kingsley-----	70	Potential for surface-water contamination Water erosion Wind erosion
Gotham-----	25	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
Grays-----	5	Potential for ground-water contamination Water erosion Wind erosion
L42C:		
Kingsley-----	70	Potential for surface-water contamination Water erosion Wind erosion
Gotham-----	25	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L42C: Grays-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L42D: Kingsley-----	70	Slope Potential for surface-water contamination Water erosion Wind erosion
Gotham-----	25	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Grays-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L42E: Kingsley-----	70	Slope Potential for surface-water contamination Water erosion Wind erosion
Gotham-----	25	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Grays-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L42F: Kingsley-----	70	Slope Potential for surface-water contamination Water erosion Wind erosion
Gotham-----	25	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Grays-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L43A: Brouillett, occasionally flooded-----	80	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Minneiska, occasionally flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Rushriver, occasionally flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L44A: Nessel-----	85	Potential for ground-water contamination
Cordova-----	10	Potential for ground-water contamination Wet soil moisture status
Angus-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L45A: Dundas-----	65	Potential for ground-water contamination Wet soil moisture status
Cordova-----	25	Potential for ground-water contamination Wet soil moisture status
Nessel-----	5	Potential for ground-water contamination Potential for surface-water contamination
Glencoe-----	5	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L46A: Tomall-----	80	Excessive permeability Potential for ground-water contamination
Rasset-----	10	Excessive permeability Potential for ground-water contamination Wind erosion
Malardi-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L47A:		
Eden Prairie-----	85	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Malardi-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Rasset-----	5	Excessive permeability Potential for ground-water contamination Wind erosion
L47B:		
Eden Prairie-----	80	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Malardi-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Rasset-----	10	Excessive permeability Potential for ground-water contamination Wind erosion
L47C:		
Eden Prairie-----	70	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Malardi-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Rasset-----	10	Excessive permeability Potential for ground-water contamination Wind erosion
Hawick-----	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L49A:		
Klossner, surface drained----	65	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Klossner, drained-----	20	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Mineral soil, drained-----	15	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L50A:		
Houghton, surface drained----	40	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Muskego, surface drained----	40	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Klossner, drained-----	10	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Mineral soil, drained-----	10	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L52C:		
Urban land-----	75	Not applicable
Lester-----	20	Slope Potential for surface-water contamination Water erosion
Kingsley-----	5	Slope Potential for surface-water contamination Water erosion Wind erosion
L52E:		
Urban land-----	75	Not applicable
Lester-----	20	Slope Potential for surface-water contamination Water erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L52E: Kingsley-----	5	Slope Potential for surface-water contamination Water erosion Wind erosion
L53B: Urban land-----	70	Not applicable
Moon-----	20	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Lester-----	10	Potential for surface-water contamination Water erosion
L54A: Urban land-----	70	Not applicable
Dundas-----	20	Potential for ground-water contamination Wet soil moisture status
Nessel-----	10	Potential for ground-water contamination
L55B: Urban land-----	70	Not applicable
Malardi-----	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Rasset-----	5	Excessive permeability Potential for ground-water contamination Wind erosion
Eden Prairie-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L55C: Urban land-----	70	Not applicable
Malardi-----	20	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hawick-----	5	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L55C: Crowfork-----	5	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L56A: Muskego, frequently flooded--	45	Flooding High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Klossner, frequently flooded	45	Flooding High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Suckercreek, frequently flooded-----	10	Flooding Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L58B: Koronis-----	60	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Kingsley-----	25	Potential for surface-water contamination Water erosion Wind erosion
Forestcity-----	10	Potential for ground-water contamination Wet soil moisture status Wind erosion
Gotham-----	5	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
L58C2: Koronis, eroded-----	55	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Kingsley, eroded-----	25	Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L58C2: Forestcity-----	15	Potential for ground-water contamination Previously eroded Wet soil moisture status Wind erosion
Gotham-----	5	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
L58D2: Koronis, eroded-----	55	Slope Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Kingsley, eroded-----	25	Slope Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Forestcity-----	15	Potential for ground-water contamination Previously eroded Wet soil moisture status Wind erosion
Gotham-----	5	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
L58E: Koronis-----	55	Slope Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Kingsley-----	25	Slope Potential for surface-water contamination Water erosion Wind erosion
Forestcity-----	15	Potential for ground-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L58E: Gotham-----	5	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L59A: Forestcity-----	70	Potential for ground-water contamination Wet soil moisture status Wind erosion
Lundlake, depressional-----	25	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Marcellon-----	5	Potential for ground-water contamination Wet soil moisture status
L60B: Angus-----	65	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Moon-----	30	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Hamel-----	5	Potential for ground-water contamination Wet soil moisture status
L61C2: Lester, eroded-----	60	Potential for surface-water contamination Previously eroded Water erosion
Metee, eroded-----	25	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Terril-----	12	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel-----	3	Potential for ground-water contamination Previously eroded Wet soil moisture status
L61D2: Lester, eroded-----	55	Slope Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L61D2:		
Metea, eroded-----	25	Slope Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Terril-----	12	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Ridgeton-----	5	Potential for surface-water contamination Previously eroded Water erosion
Hamel-----	3	Potential for ground-water contamination Previously eroded Wet soil moisture status
L61E:		
Lester-----	55	Slope Potential for surface-water contamination Water erosion
Metea-----	25	Slope Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Terril-----	10	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Hamel-----	5	Potential for ground-water contamination Wet soil moisture status
Ridgeton-----	5	Slope Potential for surface-water contamination Water erosion
L62B:		
Koronis-----	55	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Kingsley-----	20	Potential for surface-water contamination Water erosion Wind erosion
Malardi-----	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L62B: Forestcity-----	5	Potential for ground-water contamination Wet soil moisture status Wind erosion
L62C2: Koronis, eroded-----	40	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Kingsley, eroded-----	25	Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Malardi, eroded-----	25	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Forestcity-----	10	Potential for ground-water contamination Previously eroded Wet soil moisture status Wind erosion
L62D2: Koronis, eroded-----	40	Slope Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Kingsley, eroded-----	25	Slope Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Malardi, eroded-----	25	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Forestcity-----	10	Potential for ground-water contamination Previously eroded Wet soil moisture status Wind erosion
L62E: Koronis-----	40	Slope Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L62E: Kingsley-----	25	Slope Potential for surface-water contamination Water erosion Wind erosion
Malardi-----	25	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Forestcity-----	10	Potential for ground-water contamination Wet soil moisture status Wind erosion
L64A: Tadkee-----	50	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Tadkee, depression-----	36	Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Better drained soil-----	8	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Granby-----	4	Excessive permeability Limited available water capacity Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Less sandy soil-----	2	Excessive permeability Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
L70C2: Lester, eroded-----	60	Potential for surface-water contamination Previously eroded Water erosion
Malardi, eroded-----	25	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L70C2:		
Terril-----	12	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel-----	3	Potential for ground-water contamination Previously eroded Wet soil moisture status
L70D2:		
Lester, eroded-----	55	Slope Potential for surface-water contamination Previously eroded Water erosion
Malardi, eroded-----	25	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Terril-----	12	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Ridgeton-----	5	Potential for surface-water contamination Previously eroded Water erosion
Hamel-----	3	Potential for ground-water contamination Previously eroded Wet soil moisture status
L70E:		
Lester-----	55	Slope Potential for surface-water contamination Water erosion
Malardi-----	25	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Terril-----	10	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Hamel-----	5	Potential for ground-water contamination Wet soil moisture status
Ridgeton-----	5	Slope Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L71C:		
Metea-----	80	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Lester-----	15	Potential for surface-water contamination Water erosion
Moon-----	5	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wind erosion
L72A:		
Lundlake, depressional-----	90	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Forestcity-----	10	Potential for ground-water contamination Wet soil moisture status Wind erosion
L110E:		
Lester-----	50	Slope Potential for surface-water contamination Water erosion
Ridgeton-----	30	Slope Potential for surface-water contamination Water erosion
Cokato-----	10	Slope Potential for surface-water contamination Water erosion
Belview-----	6	Slope Lime content Potential for surface-water contamination Water erosion Wind erosion
Hamel-----	2	Potential for ground-water contamination Water erosion Wet soil moisture status
Terril-----	2	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L110F:		
Lester-----	55	Slope Potential for surface-water contamination Water erosion
Ridgeton-----	30	Slope Potential for surface-water contamination Water erosion
Cokato-----	8	Slope Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L110F: Belview-----	4	Slope Lime content Potential for surface-water contamination Water erosion Wind erosion
Terril-----	2	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Hamel-----	1	Potential for ground-water contamination Water erosion Wet soil moisture status
L131A: Litchfield-----	85	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Darfur-----	10	Potential for ground-water contamination Wet soil moisture status Wind erosion
Crowfork-----	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
L132A: Hamel-----	50	Potential for ground-water contamination Wet soil moisture status
Glencoe, depression-----	30	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Hamel, overwash-----	15	Potential for ground-water contamination Water erosion Wet soil moisture status
Terril-----	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
M-W. Water, miscellaneous		
U1A: Urban land.		
Udorthents, wet substratum.		
U2A. Udorthents, wet substratum		
U3B. Udorthents (cut and fill land)		



Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
U4A: Urban land.		
Udipsamments (cut and fill land).		
U5A: Urban land.		
Udorthents, wet substratum.		
U6B: Urban land.		
Udorthents (cut and fill land).		
W. Water		

Table 7a.--Land Capability and Yields per Acre of Crops

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas.  
Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
D1B-----				3.0	8.0	73	172	58	---
Anoka, terrace-----	55	4s	---						
Zimmerman, terrace-----	40	4s	---						
Kost-----	5	4s	---						
D1C-----				2.5	7.0	61	168	48	---
Anoka, terrace-----	45	6s	---						
Zimmerman, terrace-----	45	6s	---						
Kost-----	10	6s	---						
D2A-----				4.0	---	120	---	72	---
Elkriver, rarely flooded	85	2s	---						
Mosford, rarely flooded	10	3e	---						
Elkriver, occasionally flooded-----	5	2w	---						
D3A-----				3.9	---	115	---	71	---
Elkriver, occasionally flooded-----	80	2w	---						
Fordum, frequently flooded-----	15	6w	---						
Winterfield, occasionally flooded---	5	4w	---						
D4A-----				3.0	---	85	---	55	---
Dorset-----	90	3s	---						
Verndale, acid substratum-----	8	3s	---						
Almora-----	2	2s	---						
D4B-----				3.0	---	82	---	56	---
Dorset-----	85	3s	---						
Verndale, acid substratum-----	10	3s	---						
Almora-----	5	2s	---						
D4C-----				2.9	---	72	---	52	---
Dorset-----	75	4e	---						
Verndale, acid substratum-----	15	3s	---						
Almora-----	10	2s	---						
D5B-----				3.0	---	80	---	55	---
Dorset-----	65	3s	---						
Two Inlets-----	25	4s	---						
Verndale, acid substratum-----	5	3s	---						
Southhaven-----	5	1	---						
D5C-----				2.7	---	72	---	51	---
Dorset-----	55	4e	---						
Two Inlets-----	30	4s	---						
Southhaven-----	10	1	---						
Verndale, acid substratum-----	5	4e	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
D5D-----				2.5	---	60	---	42	---
Dorset-----	50	6e	---						
Two Inlets-----	35	6s	---						
Southhaven-----	10	1	---						
Verndale, acid substratum-----	5	4e	---						
D6A-----				3.2	8.0	89	175	61	---
Verndale, acid substratum-----	90	3s	---						
Dorset-----	7	3s	---						
Hubbard-----	3	4s	---						
D6B-----				3.2	8.0	84	175	59	---
Verndale, acid substratum-----	85	3s	---						
Dorset-----	10	3s	---						
Hubbard-----	5	4s	---						
D6C-----				2.9	7.0	77	168	53	---
Verndale, acid substratum-----	80	4e	---						
Dorset-----	15	4e	---						
Hubbard-----	5	6s	---						
D7A-----				3.0	---	75	172	55	---
Hubbard-----	95	4s	---						
Mosford-----	5	3s	---						
D7B-----				3.0	---	75	172	55	---
Hubbard-----	90	4s	---						
Mosford-----	10	3s	---						
D7C-----				2.5	---	65	168	49	---
Hubbard-----	80	6s	---						
Sandberg-----	10	6s	---						
Mosford-----	10	3s	---						
D8B-----				2.8	---	60	172	55	---
Sandberg-----	95	4s	---						
Arvilla, MAP >25-----	5	3s	---						
D8C-----				2.5	---	54	168	48	---
Sandberg-----	80	6s	---						
Corliss-----	15	6s	---						
Southhaven-----	5	1	---						
D8D-----				2.5	---	---	---	---	---
Sandberg-----	80	6s	---						
Corliss-----	10	6s	---						
Southhaven-----	10	1	---						
D8E-----				---	---	---	---	---	---
Sandberg-----	80	7s	---						
Corliss-----	10	7s	---						
Southhaven-----	10	1	---						
D10A-----				---	---	115	---	67	---
Forada-----	95	2w	---						
Depressional soil-----	5	6w	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
D11A-----				---	---	143	---	81	---
Lindaas-----	80	2w	---						
Lindaas, sandy									
substratum-----	10	2w	---						
Depressional soil-----	10	6w	---						
D12B-----				4.0	---	144	---	79	---
Bygland, MAP >25-----	70	2e	---						
Bygland, sandy									
substratum-----	15	2e	---						
Lindaas-----	10	2w	---						
Depressional soil-----	5	6w	---						
D12C2-----				4.0	---	131	---	75	---
Bygland, MAP >25-----	70	3e	---						
Bygland, sandy									
substratum-----	15	3e	---						
Lindaas-----	10	2w	---						
Depressional soil-----	5	6w	---						
D13A-----				3.0	8.0	104	170	57	---
Langola, terrace-----	85	3s	---						
Duelm-----	10	4s	---						
Hubbard-----	5	4s	---						
D13B-----				2.9	8.0	96	170	55	---
Langola, terrace-----	85	3s	---						
Hubbard-----	10	4s	---						
Duelm-----	5	4s	---						
D15A-----				---	---	114	---	68	---
Seelyeville, drained----	65	3w	---						
Markey, drained-----	25	3w	---						
Mineral soil, drained---	10	3w	---						
D16A-----				---	---	---	---	---	---
Seelyeville, ponded----	45	8w	---						
Markey, ponded-----	45	8w	---						
Mineral soil, ponded----	10	8w	---						
D17A-----				3.0	8.0	69	170	56	---
Duelm-----	90	4s	---						
Isan-----	8	3w	---						
Hubbard-----	2	4s	---						
D18B-----				3.4	---	95	---	69	---
Braham, terrace-----	85	3s	---						
Duelm-----	15	4s	---						
D19A-----				---	---	---	---	---	---
Fordum, frequently									
flooded-----	65	6w	---						
Winterfield, frequently									
flooded-----	25	4w	---						
Fordum, occasionally									
flooded-----	10	4w	---						
D20A-----				---	---	65	---	50	---
Isan-----	85	3w	---						
Isan, depressional-----	10	6w	---						
Duelm-----	5	4s	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
D21A-----				---	---	---	---	---	---
Isan, depressional-----	85	6w	---						
Isan-----	15	3w	---						
D23A-----				3.7	8.0	147	180	86	---
Southhaven-----	90	1	---						
Dorset-----	5	3s	---						
Mosford-----	5	3s	---						
D24A-----				---	---	115	---	71	---
Sedgeville, occasionally flooded-----	85	2w	---						
Elkriver, occasionally flooded-----	15	2w	---						
D25A-----				3.0	---	88	---	56	---
Soderville, terrace-----	90	3s	---						
Forada-----	10	2w	---						
D26A-----				3.4	---	97	---	70	---
Foldahl, MAP >25-----	90	3s	---						
Hubbard-----	5	4s	---						
Isan-----	5	3w	---						
D27A-----				3.2	---	100	---	64	---
Dorset, loamy substratum	80	3s	---						
Dorset-----	15	3s	---						
Southhaven-----	5	1	---						
D28B-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Bygland, MAP >25-----	20	2e	---						
Bygland, sandy substratum-----	5	2e	---						
D29B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Hubbard, bedrock substratum-----	20	4s	---						
Hubbard-----	5	4s	---						
Mosford-----	5	3s	---						
D30A-----				---	---	---	---	---	---
Seelyeville, surface drained-----	45	6w	---						
Markey, surface drained	45	6w	---						
Mineral soil, surface drained-----	10	6w	---						
D31A-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Duelm-----	20	4s	---						
Hubbard-----	5	4s	---						
Isan-----	5	3w	---						
D33B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Dorset-----	20	3s	---						
Verndale, acid substratum-----	5	3s	---						
Hubbard-----	5	4s	---						



Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
D33C-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Dorset-----	20	4e	---						
Verndale, acid substratum-----	5	4e	---						
Hubbard-----	5	6s	---						
D34B-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Hubbard-----	20	4s	---						
Mosford-----	5	3s	---						
D35A-----				---	---	---	---	---	---
Elkriver, occasionally flooded-----	70	2w	---						
Fordum, occasionally flooded-----	20	6w	---						
Udipsamments-----	5	---	---						
Winterfield, occasionally flooded---	5	4w	---						
D37F-----				---	---	---	---	---	---
Dorset, bedrock substratum-----	70	8s	---						
Rock outcrop-----	20	---	---						
Hubbard, bedrock substratum-----	10	8s	---						
D40A-----				---	---	85	---	56	---
Kratka, thick solum----	80	3w	---						
Duelm-----	10	4s	---						
Foldahl, MAP >25-----	10	3s	---						
D41C-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Waukon-----	20	3e	---						
Braham-----	5	3s	---						
D43A-----				4.3	---	151	---	84	---
Gonvick, terrace-----	85	1	---						
Braham-----	15	3s	---						
GP. Pits, gravel- Udipsamments									
L2B-----				2.9	---	80	---	52	---
Malardi-----	65	3s	---						
Hawick-----	25	4s	---						
Rasset-----	5	2e	---						
Eden Prairie-----	5	3s	---						
L2C-----				2.8	---	78	---	52	---
Malardi-----	60	4e	---						
Hawick-----	25	4s	---						
Tomall-----	10	2e	---						
Crowfork-----	5	4s	---						
L2D-----				2.5	---	69	---	45	---
Malardi-----	55	6e	---						
Hawick-----	30	6e	---						
Tomall-----	10	2e	---						
Crowfork-----	5	6s	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L2E-----				---	---	---	---	---	---
Malardi-----	55	7e	---						
Hawick-----	30	7e	---						
Tomall-----	15	2e	---						
L3A-----				3.4	---	117	---	64	---
Rasset-----	90	2s	---						
Malardi-----	8	3s	---						
Eden Prairie-----	2	3s	---						
L3B-----				3.4	---	109	---	58	---
Rasset-----	80	2e	---						
Malardi-----	15	3s	---						
Eden Prairie-----	5	3s	---						
L3C-----				3.0	---	101	---	54	---
Rasset-----	75	3e	---						
Malardi-----	10	4e	---						
Tomall-----	10	2e	---						
Eden Prairie-----	5	4e	---						
L4B-----				3.0	---	89	---	52	---
Crowfork-----	90	4s	---						
Eden Prairie-----	10	3s	---						
L4C-----				2.7	---	75	---	45	---
Crowfork-----	90	4s	---						
Eden Prairie-----	10	4e	---						
L4D-----				2.5	---	65	---	40	---
Crowfork-----	85	6s	---						
Eden Prairie-----	15	6e	---						
L6A-----				---	---	125	---	75	---
Biscay-----	85	2w	---						
Biscay, depressional----	10	6w	---						
Mayer-----	5	2w	---						
L7A-----				---	---	---	---	---	---
Biscay, depressional----	80	6w	---						
Biscay-----	15	2w	---						
Mayer-----	5	2w	---						
L8A-----				---	---	130	---	75	---
Darfur-----	95	2w	---						
Dassel-----	5	5w	---						
L9A-----				---	---	140	---	80	---
Minnetonka-----	90	2w	---						
Depressional soil-----	10	6w	---						
L10B-----				3.7	---	122	---	60	---
Kasota-----	80	2e	---						
Eden Prairie-----	10	3s	---						
Wet soil in swales-----	10	2w	---						
L11B-----				3.9	---	145	---	77	---
Grays-----	90	2e	---						
Kasota-----	5	2e	---						
Crowfork-----	5	4s	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L12A-----				---	---	---	---	---	---
Muskego, frequently flooded-----	30	8w	---						
Blue Earth, frequently flooded-----	30	8w	---						
Houghton, frequently flooded-----	30	8w	---						
Oshawa, frequently flooded-----	10	8w	---						
L13A-----				---	---	120	---	76	---
Klossner, drained-----	80	3w	---						
Mineral soil, drained---	15	3w	---						
Houghton, drained-----	5	3w	---						
L14A-----				---	---	120	---	79	---
Houghton, drained-----	80	3w	---						
Klossner, drained-----	10	3w	---						
Mineral soil, drained---	10	3w	---						
L15A-----				---	---	---	---	---	---
Klossner, ponded-----	30	8w	---						
Okoboji, ponded-----	30	8w	---						
Glencoe, ponded-----	30	8w	---						
Houghton, ponded-----	10	8w	---						
L16A-----				---	---	---	---	---	---
Muskego, ponded-----	30	8w	---						
Blue Earth, ponded-----	30	8w	---						
Houghton, ponded-----	30	8w	---						
Klossner, ponded-----	10	8w	---						
L17B-----				3.9	---	128	---	76	---
Angus-----	50	2e	---						
Malardi-----	30	3s	---						
Moon-----	10	3s	---						
Cordova-----	10	2w	---						
L18A-----				---	---	145	---	80	---
Shields-----	85	2w	---						
Lerdal-----	10	2e	---						
Mazaska-----	5	2w	---						
L19B-----				3.4	---	96	---	69	---
Moon-----	85	3s	---						
Finchford-----	15	4s	---						
L20B-----				3.4	---	109	---	69	---
Fedji, silty substratum	85	3s	---						
Finchford-----	15	4s	---						
L21A-----				---	---	149	---	83	---
Canisteo-----	80	2w	---						
Cordova-----	15	2w	---						
Glencoe-----	5	6w	---						
L22C2-----				4.0	---	134	---	75	---
Lester, eroded-----	70	3e	---						
Angus-----	15	2e	---						
Terril-----	12	2e	---						
Hamel-----	3	2w	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L22D2-----				3.2	---	101	---	64	---
Lester, eroded-----	80	4e	---						
Terril-----	10	2e	---						
Hamel-----	5	2w	---						
Ridgeton-----	5	3e	---						
L22E-----				---	---	---	---	---	---
Lester, morainic-----	75	6e	---						
Terril-----	15	2e	---						
Hamel-----	5	2w	---						
Ridgeton-----	5	4e	---						
L22F-----				---	---	---	---	---	---
Lester, morainic-----	75	7e	---						
Terril-----	10	2e	---						
Ridgeton-----	10	6e	---						
Hamel-----	5	2w	---						
L23A-----				---	---	155	---	90	---
Cordova-----	85	2w	---						
Glencoe-----	10	6w	---						
Nessel-----	5	1	---						
L24A-----				---	---	141	---	79	---
Glencoe, depressional---	90	3w	---						
Cordova-----	10	2w	---						
L25A-----				4.5	---	159	---	90	---
Le Sueur-----	80	1	---						
Cordova-----	15	2w	---						
Angus-----	5	2e	---						
L26A-----				4.0	---	148	---	86	---
Shorewood-----	85	1	---						
Minnetonka-----	10	2w	---						
Good Thunder-----	5	2w	---						
L26B-----				4.0	---	144	---	84	---
Shorewood-----	90	2e	---						
Good Thunder-----	5	2w	---						
Minnetonka-----	5	2w	---						
L26C2-----				3.9	---	125	---	75	---
Shorewood, eroded-----	95	3e	---						
Minnetonka-----	5	2w	---						
L27A-----				---	---	---	---	---	---
Suckercreek, frequently flooded-----	85	5w	---						
Suckercreek, occasionally flooded---	10	4w	---						
Hanlon, occasionally flooded-----	5	2s	---						
L28A-----				---	---	121	---	79	---
Suckercreek, occasionally flooded---	80	4w	---						
Suckercreek, frequently flooded-----	10	5w	---						
Hanlon, occasionally flooded-----	10	2s	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L29A-----				4.0	---	128	---	77	---
Hanlon, occasionally flooded-----	80	2s	---						
Suckercreek, occasionally flooded--	10	4w	---						
Suckercreek, frequently flooded-----	10	5w	---						
L30A-----				---	---	---	---	---	---
Medo, surface drained---	65	6w	---						
Medo, drained-----	20	3w	---						
Mineral soil, drained---	15	3w	---						
L31A-----				---	---	---	---	---	---
Medo, ponded-----	30	8w	---						
Dassel, ponded-----	30	8w	---						
Biscay, ponded-----	30	8w	---						
Houghton, ponded-----	5	8w	---						
Muskego, ponded-----	5	8w	---						
L32D-----				---	---	---	---	---	---
Hawick-----	75	7s	---						
Crowfork-----	15	7s	---						
Tomall-----	10	2e	---						
L32F-----				---	---	---	---	---	---
Hawick-----	75	8s	---						
Crowfork-----	15	8s	---						
Tomall-----	10	2e	---						
L35A-----				4.0	---	150	---	85	---
Lerdal-----	80	2e	---						
Mazaska-----	10	2w	---						
Cordova-----	5	2w	---						
Le Sueur-----	5	1	---						
L36A-----				---	---	153	---	87	---
Hamel, overwash-----	50	2w	---						
Hamel-----	43	2w	---						
Terril-----	5	2e	---						
Glencoe-----	2	3w	---						
L37B-----				4.5	---	154	---	89	---
Angus, morainic-----	80	2e	---						
Angus, eroded-----	10	2e	---						
Le Sueur-----	5	1	---						
Cordova-----	5	2w	---						
L38A-----				---	---	130	---	75	---
Rushriver, occasionally flooded-----	75	2w	---						
Oshawa, frequently flooded-----	15	6w	---						
Minneiska, occasionally flooded-----	5	2s	---						
Alganssee, occasionally flooded-----	5	4w	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L39A-----				---	---	134	---	80	---
Minneiska, occasionally flooded-----	70	2s	---						
Rushriver, occasionally flooded-----	15	2w	---						
Oshawa, frequently flooded-----	10	6w	---						
Alganssee, occasionally flooded-----	5	4w	---						
L40B-----				4.4	---	144	---	84	---
Angus-----	45	2e	---						
Kilkenny-----	40	2e	---						
Lerdal-----	10	2e	---						
Mazaska-----	5	2w	---						
L41C2-----				3.9	---	128	---	70	---
Lester, eroded-----	45	3e	---						
Kilkenny, eroded-----	40	3e	---						
Terril-----	10	2e	---						
Derrynane-----	5	2w	---						
L41D2-----				3.2	---	100	---	64	---
Lester, eroded-----	45	4e	---						
Kilkenny, eroded-----	35	4e	---						
Terril-----	10	2e	---						
Derrynane-----	5	2w	---						
Ridgeton-----	5	3e	---						
L41E-----				---	---	---	---	---	---
Lester-----	45	6e	---						
Kilkenny-----	40	6e	---						
Terril-----	5	2e	---						
Derrynane-----	5	2w	---						
Ridgeton-----	5	4e	---						
L41F-----				---	---	---	---	---	---
Lester-----	45	7e	---						
Kilkenny-----	35	7e	---						
Ridgeton-----	10	6e	---						
Terril-----	5	2e	---						
Derrynane-----	5	2w	---						
L42B-----				3.7	---	115	---	64	---
Kingsley-----	70	2e	---						
Gotham-----	25	4s	---						
Grays-----	5	2e	---						
L42C-----				3.5	---	108	---	60	---
Kingsley-----	70	3e	---						
Gotham-----	25	6s	---						
Grays-----	5	2e	---						
L42D-----				3.0	---	89	---	56	---
Kingsley-----	70	4e	---						
Gotham-----	25	6s	---						
Grays-----	5	2e	---						
L42E-----				---	---	---	---	---	---
Kingsley-----	70	6e	---						
Gotham-----	25	6s	---						
Grays-----	5	2e	---						



Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L42F-----				---	---	---	---	---	---
Kingsley-----	70	7e	---						
Gotham-----	25	7s	---						
Grays-----	5	2e	---						
L43A-----				---	---	138	---	83	---
Brouillett, occasionally flooded-----	80	2w	---						
Minneiska, occasionally flooded-----	10	2s	---						
Rushriver, occasionally flooded-----	10	2w	---						
L44A-----				4.5	---	155	---	90	---
Nessel-----	85	1	---						
Cordova-----	10	2w	---						
Angus-----	5	2e	---						
L45A-----				---	---	151	---	86	---
Dundas-----	65	2w	---						
Cordova-----	25	2w	---						
Nessel-----	5	1	---						
Glencoe-----	5	6w	---						
L46A-----				4.0	---	145	---	84	---
Tomall-----	80	2e	---						
Rasset-----	10	2s	---						
Malardi-----	10	3s	---						
L47A-----				3.2	---	91	---	60	---
Eden Prairie-----	85	3s	---						
Malardi-----	10	3s	---						
Rasset-----	5	2s	---						
L47B-----				3.0	---	88	---	52	---
Eden Prairie-----	80	3s	---						
Malardi-----	10	3s	---						
Rasset-----	10	2e	---						
L47C-----				2.8	---	77	---	50	---
Eden Prairie-----	70	4e	---						
Malardi-----	10	4e	---						
Rasset-----	10	2e	---						
Hawick-----	10	4s	---						
L49A-----				---	---	---	---	---	---
Klossner, surface drained-----	65	6w	---						
Klossner, drained-----	20	3w	---						
Mineral soil, drained---	15	3w	---						
L50A-----				---	---	---	---	---	---
Houghton, surface drained-----	40	6w	---						
Muskego, surface drained	40	6w	---						
Klossner, drained-----	10	3w	---						
Mineral soil, drained---	10	3w	---						
L52C-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Lester-----	20	6e	---						
Kingsley-----	5	6e	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L52E-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Lester-----	20	7e	---						
Kingsley-----	5	7e	---						
L53B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Moon-----	20	3s	---						
Lester-----	10	3e	---						
L54A-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Dundas-----	20	2w	---						
Nessel-----	10	1	---						
L55B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Malardi-----	20	3s	---						
Rasset-----	5	2e	---						
Eden Prairie-----	5	3s	---						
L55C-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Malardi-----	20	4e	---						
Hawick-----	5	4s	---						
Crowfork-----	5	4s	---						
L56A-----				---	---	---	---	---	---
Muskego, frequently flooded-----	45	6w	---						
Klossner, frequently flooded-----	45	6w	---						
Suckercreek, frequently flooded-----	10	5w	---						
L58B-----				4.0	---	136	---	75	---
Koronis-----	60	2e	---						
Kingsley-----	25	2e	---						
Forestcity-----	10	2w	---						
Gotham-----	5	4s	---						
L58C2-----				3.7	---	123	---	72	---
Koronis, eroded-----	55	3e	---						
Kingsley, eroded-----	25	3e	---						
Forestcity-----	15	2w	---						
Gotham-----	5	6s	---						
L58D2-----				3.3	---	111	---	68	---
Koronis, eroded-----	55	4e	---						
Kingsley, eroded-----	25	4e	---						
Forestcity-----	15	2w	---						
Gotham-----	5	6s	---						
L58E-----				---	---	---	---	---	---
Koronis-----	55	7e	---						
Kingsley-----	25	7e	---						
Forestcity-----	15	2w	---						
Gotham-----	5	6s	---						
L59A-----				---	---	139	---	77	---
Forestcity-----	70	2w	---						
Lundlake, depressiona--	25	3w	---						
Marcellon-----	5	1	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Alfalfa hay		Corn		Oats	
		N	I	N	I	N	I	N	I
				Tons	Tons	Bu	Bu	Bu	Bu
L60B-----				4.1	---	138	---	84	---
Angus-----	65	2e	---						
Moon-----	30	3s	---						
Hamel-----	5	2w	---						
L61C2-----				3.7	---	119	---	71	---
Lester, eroded-----	60	3e	---						
Metea, eroded-----	25	4e	---						
Terril-----	12	2e	---						
Hamel-----	3	2w	---						
L61D2-----				3.0	---	99	---	66	---
Lester, eroded-----	55	4e	---						
Metea, eroded-----	25	6e	---						
Terril-----	12	2e	---						
Ridgeton-----	5	3e	---						
Hamel-----	3	2w	---						
L61E-----				---	---	---	---	---	---
Lester-----	55	6e	---						
Metea-----	25	7e	---						
Terril-----	10	2e	---						
Hamel-----	5	2w	---						
Ridgeton-----	5	4e	---						
L62B-----				3.9	---	127	---	71	---
Koronis-----	55	3e	---						
Kingsley-----	20	3e	---						
Malardi-----	20	3s	---						
Forestcity-----	5	2w	---						
L62C2-----				3.4	---	111	---	66	---
Koronis, eroded-----	40	3e	---						
Kingsley, eroded-----	25	3e	---						
Malardi, eroded-----	25	4e	---						
Forestcity-----	10	2w	---						
L62D2-----				3.0	---	100	---	62	---
Koronis, eroded-----	40	4e	---						
Kingsley, eroded-----	25	4e	---						
Malardi, eroded-----	25	4e	---						
Forestcity-----	10	2w	---						
L62E-----				---	---	---	---	---	---
Koronis-----	40	7e	---						
Kingsley-----	25	7e	---						
Malardi-----	25	7e	---						
Forestcity-----	10	2w	---						
L64A-----				---	---	---	---	---	---
Tadkee-----	50	3w	---						
Tadkee, depressional----	36	6w	---						
Better drained soil----	8	3s	---						
Granby-----	4	5w	---						
Less sandy soil-----	2	2w	---						
L70C2-----				3.5	---	116	---	66	---
Lester, eroded-----	60	3e	---						
Malardi, eroded-----	25	4e	---						
Terril-----	12	2e	---						
Hamel-----	3	2w	---						

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

[illegible]

[illegible]

Table 7b.--Land Capability and Yields per Acre of Crops

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
D1B-----				---	400	26	50	39	---
Anoka, terrace-----	55	4s	---						
Zimmerman, terrace-----	40	4s	---						
Kost-----	5	4s	---						
D1C-----				---	380	22	45	33	---
Anoka, terrace-----	45	6s	---						
Zimmerman, terrace-----	45	6s	---						
Kost-----	10	6s	---						
D2A-----				---	---	37	---	49	---
Elkriver, rarely flooded	85	2s	---						
Mosford, rarely flooded	10	3e	---						
Elkriver, occasionally flooded-----	5	2w	---						
D3A-----				---	---	35	---	48	---
Elkriver, occasionally flooded-----	80	2w	---						
Fordum, frequently flooded-----	15	6w	---						
Winterfield, occasionally flooded---	5	4w	---						
D4A-----				---	---	28	---	38	---
Dorset-----	90	3s	---						
Verndale, acid substratum-----	8	3s	---						
Almora-----	2	2s	---						
D4B-----				---	---	28	---	38	---
Dorset-----	85	3s	---						
Verndale, acid substratum-----	10	3s	---						
Almora-----	5	2s	---						
D4C-----				---	---	24	---	34	---
Dorset-----	75	4e	---						
Verndale, acid substratum-----	15	3s	---						
Almora-----	10	2s	---						
D5B-----				---	---	27	---	38	---
Dorset-----	65	3s	---						
Two Inlets-----	25	4s	---						
Verndale, acid substratum-----	5	3s	---						
Southhaven-----	5	1	---						
D5C-----				---	---	24	---	34	---
Dorset-----	55	4e	---						
Two Inlets-----	30	4s	---						
Southhaven-----	10	1	---						
Verndale, acid substratum-----	5	4e	---						



Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
D5D-----				---	---	22	---	32	---
Dorset-----	50	6e	---						
Two Inlets-----	35	6s	---						
Southhaven-----	10	1	---						
Verndale, acid substratum-----	5	4e	---						
D6A-----				---	400	31	50	41	---
Verndale, acid substratum-----	90	3s	---						
Dorset-----	7	3s	---						
Hubbard-----	3	4s	---						
D6B-----				---	400	27	50	39	---
Verndale, acid substratum-----	85	3s	---						
Dorset-----	10	3s	---						
Hubbard-----	5	4s	---						
D6C-----				---	390	26	45	34	---
Verndale, acid substratum-----	80	4e	---						
Dorset-----	15	4e	---						
Hubbard-----	5	6s	---						
D7A-----				---	---	25	50	35	---
Hubbard-----	95	4s	---						
Mosford-----	5	3s	---						
D7B-----				---	---	25	50	35	---
Hubbard-----	90	4s	---						
Mosford-----	10	3s	---						
D7C-----				---	---	23	45	31	---
Hubbard-----	80	6s	---						
Sandberg-----	10	6s	---						
Mosford-----	10	3s	---						
D8B-----				---	400	22	50	37	---
Sandberg-----	95	4s	---						
Arvilla, MAP >25-----	5	3s	---						
D8C-----				---	380	21	45	31	---
Sandberg-----	80	6s	---						
Corliss-----	15	6s	---						
Southhaven-----	5	1	---						
D8D-----				---	---	---	---	---	---
Sandberg-----	80	6s	---						
Corliss-----	10	6s	---						
Southhaven-----	10	1	---						
D8E-----				---	---	---	---	---	---
Sandberg-----	80	7s	---						
Corliss-----	10	7s	---						
Southhaven-----	10	1	---						
D10A-----				---	---	35	---	45	---
Forada-----	95	2w	---						
Depressional soil-----	5	6w	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
D11A-----				---	---	39	---	49	---
Lindaas-----	80	2w	---						
Lindaas, sandy									
substratum-----	10	2w	---						
Depressional soil-----	10	6w	---						
D12B-----				---	---	40	---	51	---
Bygland, MAP >25-----	70	2e	---						
Bygland, sandy									
substratum-----	15	2e	---						
Lindaas-----	10	2w	---						
Depressional soil-----	5	6w	---						
D12C2-----				---	---	35	---	45	---
Bygland, MAP >25-----	70	3e	---						
Bygland, sandy									
substratum-----	15	3e	---						
Lindaas-----	10	2w	---						
Depressional soil-----	5	6w	---						
D13A-----				---	---	27	50	43	---
Langola, terrace-----	85	3s	---						
Duelm-----	10	4s	---						
Hubbard-----	5	4s	---						
D13B-----				---	---	25	50	41	---
Langola, terrace-----	85	3s	---						
Hubbard-----	10	4s	---						
Duelm-----	5	4s	---						
D15A-----				---	---	32	---	39	---
Seelyeville, drained----	65	3w	---						
Markey, drained-----	25	3w	---						
Mineral soil, drained----	10	3w	---						
D16A-----				---	---	---	---	---	---
Seelyeville, ponded----	45	8w	---						
Markey, ponded-----	45	8w	---						
Mineral soil, ponded----	10	8w	---						
D17A-----				---	---	24	50	37	---
Duelm-----	90	4s	---						
Isan-----	8	3w	---						
Hubbard-----	2	4s	---						
D18B-----				---	---	30	---	45	---
Braham, terrace-----	85	3s	---						
Duelm-----	15	4s	---						
D19A-----				---	---	---	---	---	---
Fordum, frequently									
flooded-----	65	6w	---						
Winterfield, frequently									
flooded-----	25	4w	---						
Fordum, occasionally									
flooded-----	10	4w	---						
D20A-----				---	---	22	---	33	---
Isan-----	85	3w	---						
Isan, depressional-----	10	6w	---						
Duelm-----	5	4s	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
D21A-----				---	---	---	---	---	---
Isan, depressional-----	85	6w	---						
Isan-----	15	3w	---						
D23A-----				---	---	46	50	53	---
Southhaven-----	90	1	---						
Dorset-----	5	3s	---						
Mosford-----	5	3s	---						
D24A-----				---	---	35	---	48	---
Sedgeville, occasionally flooded-----	85	2w	---						
Elkriver, occasionally flooded-----	15	2w	---						
D25A-----				---	---	28	---	40	---
Soderville, terrace-----	90	3s	---						
Forada-----	10	2w	---						
D26A-----				---	---	30	---	45	---
Foldahl, MAP >25-----	90	3s	---						
Hubbard-----	5	4s	---						
Isan-----	5	3w	---						
D27A-----				---	---	30	---	42	---
Dorset, loamy substratum	80	3s	---						
Dorset-----	15	3s	---						
Southhaven-----	5	1	---						
D28B-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Bygland, MAP >25-----	20	2e	---						
Bygland, sandy substratum-----	5	2e	---						
D29B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Hubbard, bedrock substratum-----	20	4s	---						
Hubbard-----	5	4s	---						
Mosford-----	5	3s	---						
D30A-----				---	---	---	---	---	---
Seelyeville, surface drained-----	45	6w	---						
Markey, surface drained	45	6w	---						
Mineral soil, surface drained-----	10	6w	---						
D31A-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Duelm-----	20	4s	---						
Hubbard-----	5	4s	---						
Isan-----	5	3w	---						
D33B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Dorset-----	20	3s	---						
Verndale, acid substratum-----	5	3s	---						
Hubbard-----	5	4s	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
D33C-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Dorset-----	20	4e	---						
Verndale, acid substratum-----	5	4e	---						
Hubbard-----	5	6s	---						
D34B-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Hubbard-----	20	4s	---						
Mosford-----	5	3s	---						
D35A-----				---	---	---	---	---	---
Elkriver, occasionally flooded-----	70	2w	---						
Fordum, occasionally flooded-----	20	6w	---						
Udipsamments-----	5	---	---						
Winterfield, occasionally flooded--	5	4w	---						
D37F-----				---	---	---	---	---	---
Dorset, bedrock substratum-----	70	8s	---						
Rock outcrop-----	20	---	---						
Hubbard, bedrock substratum-----	10	8s	---						
D40A-----				---	---	24	---	38	---
Kratka, thick solum----	80	3w	---						
Duelm-----	10	4s	---						
Foldahl, MAP >25-----	10	3s	---						
D41C-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Waukon-----	20	3e	---						
Braham-----	5	3s	---						
D43A-----				---	---	45	---	56	---
Gonvick, terrace-----	85	1	---						
Braham-----	15	3s	---						
GP. Pits, gravel- Udipsamments									
L2B-----				---	---	23	---	35	---
Malardi-----	65	3s	---						
Hawick-----	25	4s	---						
Rasset-----	5	2e	---						
Eden Prairie-----	5	3s	---						
L2C-----				---	---	23	---	34	---
Malardi-----	60	4e	---						
Hawick-----	25	4s	---						
Tomall-----	10	2e	---						
Crowfork-----	5	4s	---						
L2D-----				---	---	21	---	33	---
Malardi-----	55	6e	---						
Hawick-----	30	6e	---						
Tomall-----	10	2e	---						
Crowfork-----	5	6s	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L2E-----				---	---	---	---	---	---
Malardi-----	55	7e	---						
Hawick-----	30	7e	---						
Tomall-----	15	2e	---						
L3A-----				---	---	32	---	44	---
Rasset-----	90	2s	---						
Malardi-----	8	3s	---						
Eden Prairie-----	2	3s	---						
L3B-----				---	---	28	---	41	---
Rasset-----	80	2e	---						
Malardi-----	15	3s	---						
Eden Prairie-----	5	3s	---						
L3C-----				---	---	26	---	40	---
Rasset-----	75	3e	---						
Malardi-----	10	4e	---						
Tomall-----	10	2e	---						
Eden Prairie-----	5	4e	---						
L4B-----				---	---	24	---	39	---
Crowfork-----	90	4s	---						
Eden Prairie-----	10	3s	---						
L4C-----				---	---	22	---	37	---
Crowfork-----	90	4s	---						
Eden Prairie-----	10	4e	---						
L4D-----				---	---	16	---	34	---
Crowfork-----	85	6s	---						
Eden Prairie-----	15	6e	---						
L6A-----				---	---	35	---	42	---
Biscay-----	85	2w	---						
Biscay, depressional----	10	6w	---						
Mayer-----	5	2w	---						
L7A-----				---	---	---	---	---	---
Biscay, depressional----	80	6w	---						
Biscay-----	15	2w	---						
Mayer-----	5	2w	---						
L8A-----				---	---	35	---	41	---
Darfur-----	95	2w	---						
Dassel-----	5	5w	---						
L9A-----				---	---	38	---	52	---
Minnetonka-----	90	2w	---						
Depressional soil-----	10	6w	---						
L10B-----				---	---	32	---	44	---
Kasota-----	80	2e	---						
Eden Prairie-----	10	3s	---						
Wet soil in swales-----	10	2w	---						
L11B-----				---	---	40	---	53	---
Grays-----	90	2e	---						
Kasota-----	5	2e	---						
Crowfork-----	5	4s	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L12A-----				---	---	---	---	---	---
Muskego, frequently flooded-----	30	8w	---						
Blue Earth, frequently flooded-----	30	8w	---						
Houghton, frequently flooded-----	30	8w	---						
Oshawa, frequently flooded-----	10	8w	---						
L13A-----				---	---	38	---	43	---
Klossner, drained-----	80	3w	---						
Mineral soil, drained---	15	3w	---						
Houghton, drained-----	5	3w	---						
L14A-----				---	---	35	---	41	---
Houghton, drained-----	80	3w	---						
Klossner, drained-----	10	3w	---						
Mineral soil, drained---	10	3w	---						
L15A-----				---	---	---	---	---	---
Klossner, ponded-----	30	8w	---						
Okoboji, ponded-----	30	8w	---						
Glencoe, ponded-----	30	8w	---						
Houghton, ponded-----	10	8w	---						
L16A-----				---	---	---	---	---	---
Muskego, ponded-----	30	8w	---						
Blue Earth, ponded-----	30	8w	---						
Houghton, ponded-----	30	8w	---						
Klossner, ponded-----	10	8w	---						
L17B-----				---	---	39	---	47	---
Angus-----	50	2e	---						
Malardi-----	30	3s	---						
Moon-----	10	3s	---						
Cordova-----	10	2w	---						
L18A-----				---	---	42	---	50	---
Shields-----	85	2w	---						
Lerdal-----	10	2e	---						
Mazaska-----	5	2w	---						
L19B-----				---	---	31	---	46	---
Moon-----	85	3s	---						
Finchford-----	15	4s	---						
L20B-----				---	---	30	---	45	---
Fedji, silty substratum	85	3s	---						
Finchford-----	15	4s	---						
L21A-----				---	---	42	---	52	---
Canisteo-----	80	2w	---						
Cordova-----	15	2w	---						
Glencoe-----	5	6w	---						
L22C2-----				---	---	40	---	49	---
Lester, eroded-----	70	3e	---						
Angus-----	15	2e	---						
Terril-----	12	2e	---						
Hamel-----	3	2w	---						



Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L22D2-----				---	---	30	---	40	---
Lester, eroded-----	80	4e	---						
Terril-----	10	2e	---						
Hamel-----	5	2w	---						
Ridgeton-----	5	3e	---						
L22E-----				---	---	---	---	---	---
Lester, morainic-----	75	6e	---						
Terril-----	15	2e	---						
Hamel-----	5	2w	---						
Ridgeton-----	5	4e	---						
L22F-----				---	---	---	---	---	---
Lester, morainic-----	75	7e	---						
Terril-----	10	2e	---						
Ridgeton-----	10	6e	---						
Hamel-----	5	2w	---						
L23A-----				---	---	45	---	56	---
Cordova-----	85	2w	---						
Glencoe-----	10	6w	---						
Nessel-----	5	1	---						
L24A-----				---	---	42	---	48	---
Glencoe, depressional---	90	3w	---						
Cordova-----	10	2w	---						
L25A-----				---	---	47	---	56	---
Le Sueur-----	80	1	---						
Cordova-----	15	2w	---						
Angus-----	5	2e	---						
L26A-----				---	---	44	---	54	---
Shorewood-----	85	1	---						
Minnetonka-----	10	2w	---						
Good Thunder-----	5	2w	---						
L26B-----				---	---	41	---	50	---
Shorewood-----	90	2e	---						
Good Thunder-----	5	2w	---						
Minnetonka-----	5	2w	---						
L26C2-----				---	---	38	---	45	---
Shorewood, eroded-----	95	3e	---						
Minnetonka-----	5	2w	---						
L27A-----				---	---	---	---	---	---
Suckercreek, frequently flooded-----	85	5w	---						
Suckercreek, occasionally flooded---	10	4w	---						
Hanlon, occasionally flooded-----	5	2s	---						
L28A-----				---	---	38	---	45	---
Suckercreek, occasionally flooded---	80	4w	---						
Suckercreek, frequently flooded-----	10	5w	---						
Hanlon, occasionally flooded-----	10	2s	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L29A-----				---	---	38	---	45	---
Hanlon, occasionally flooded-----	80	2s	---						
Suckercreek, occasionally flooded--	10	4w	---						
Suckercreek, frequently flooded-----	10	5w	---						
L30A-----				---	---	---	---	---	---
Medo, surface drained---	65	6w	---						
Medo, drained-----	20	3w	---						
Mineral soil, drained---	15	3w	---						
L31A-----				---	---	---	---	---	---
Medo, ponded-----	30	8w	---						
Dassel, ponded-----	30	8w	---						
Biscay, ponded-----	30	8w	---						
Houghton, ponded-----	5	8w	---						
Muskego, ponded-----	5	8w	---						
L32D-----				---	---	---	---	---	---
Hawick-----	75	7s	---						
Crowfork-----	15	7s	---						
Tomall-----	10	2e	---						
L32F-----				---	---	---	---	---	---
Hawick-----	75	8s	---						
Crowfork-----	15	8s	---						
Tomall-----	10	2e	---						
L35A-----				---	---	44	---	54	---
Lerdal-----	80	2e	---						
Mazaska-----	10	2w	---						
Cordova-----	5	2w	---						
Le Sueur-----	5	1	---						
L36A-----				---	---	46	---	55	---
Hamel, overwash-----	50	2w	---						
Hamel-----	43	2w	---						
Terril-----	5	2e	---						
Glencoe-----	2	3w	---						
L37B-----				---	---	47	---	52	---
Angus, morainic-----	80	2e	---						
Angus, eroded-----	10	2e	---						
Le Sueur-----	5	1	---						
Cordova-----	5	2w	---						
L38A-----				---	---	38	---	48	---
Rushriver, occasionally flooded-----	75	2w	---						
Oshawa, frequently flooded-----	15	6w	---						
Minneiska, occasionally flooded-----	5	2s	---						
Alganssee, occasionally flooded-----	5	4w	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L39A-----				---	---	39	---	49	---
Minneiska, occasionally flooded-----	70	2s	---						
Rushriver, occasionally flooded-----	15	2w	---						
Oshawa, frequently flooded-----	10	6w	---						
Alganssee, occasionally flooded-----	5	4w	---						
L40B-----				---	---	46	---	51	---
Angus-----	45	2e	---						
Kilkenny-----	40	2e	---						
Lerdal-----	10	2e	---						
Mazaska-----	5	2w	---						
L41C2-----				---	---	37	---	47	---
Lester, eroded-----	45	3e	---						
Kilkenny, eroded-----	40	3e	---						
Terril-----	10	2e	---						
Derrynane-----	5	2w	---						
L41D2-----				---	---	30	---	40	---
Lester, eroded-----	45	4e	---						
Kilkenny, eroded-----	35	4e	---						
Terril-----	10	2e	---						
Derrynane-----	5	2w	---						
Ridgeton-----	5	3e	---						
L41E-----				---	---	---	---	---	---
Lester-----	45	6e	---						
Kilkenny-----	40	6e	---						
Terril-----	5	2e	---						
Derrynane-----	5	2w	---						
Ridgeton-----	5	4e	---						
L41F-----				---	---	---	---	---	---
Lester-----	45	7e	---						
Kilkenny-----	35	7e	---						
Ridgeton-----	10	6e	---						
Terril-----	5	2e	---						
Derrynane-----	5	2w	---						
L42B-----				---	---	30	---	45	---
Kingsley-----	70	2e	---						
Gotham-----	25	4s	---						
Grays-----	5	2e	---						
L42C-----				---	---	27	---	43	---
Kingsley-----	70	3e	---						
Gotham-----	25	6s	---						
Grays-----	5	2e	---						
L42D-----				---	---	25	---	40	---
Kingsley-----	70	4e	---						
Gotham-----	25	6s	---						
Grays-----	5	2e	---						
L42E-----				---	---	---	---	---	---
Kingsley-----	70	6e	---						
Gotham-----	25	6s	---						
Grays-----	5	2e	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L42F-----				---	---	---	---	---	---
Kingsley-----	70	7e	---						
Gotham-----	25	7s	---						
Grays-----	5	2e	---						
L43A-----				---	---	39	---	51	---
Brouillett, occasionally flooded-----	80	2w	---						
Minneiska, occasionally flooded-----	10	2s	---						
Rushriver, occasionally flooded-----	10	2w	---						
L44A-----				---	---	47	---	55	---
Nessel-----	85	1	---						
Cordova-----	10	2w	---						
Angus-----	5	2e	---						
L45A-----				---	---	43	---	55	---
Dundas-----	65	2w	---						
Cordova-----	25	2w	---						
Nessel-----	5	1	---						
Glencoe-----	5	6w	---						
L46A-----				---	---	44	---	53	---
Tomall-----	80	2e	---						
Rasset-----	10	2s	---						
Malardi-----	10	3s	---						
L47A-----				---	---	30	---	40	---
Eden Prairie-----	85	3s	---						
Malardi-----	10	3s	---						
Rasset-----	5	2s	---						
L47B-----				---	---	24	---	35	---
Eden Prairie-----	80	3s	---						
Malardi-----	10	3s	---						
Rasset-----	10	2e	---						
L47C-----				---	---	22	---	32	---
Eden Prairie-----	70	4e	---						
Malardi-----	10	4e	---						
Rasset-----	10	2e	---						
Hawick-----	10	4s	---						
L49A-----				---	---	---	---	---	---
Klossner, surface drained-----	65	6w	---						
Klossner, drained-----	20	3w	---						
Mineral soil, drained---	15	3w	---						
L50A-----				---	---	---	---	---	---
Houghton, surface drained-----	40	6w	---						
Muskego, surface drained	40	6w	---						
Klossner, drained-----	10	3w	---						
Mineral soil, drained---	10	3w	---						
L52C-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Lester-----	20	6e	---						
Kingsley-----	5	6e	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L52E-----				---	---	---	---	---	---
Urban land-----	75	---	---						
Lester-----	20	7e	---						
Kingsley-----	5	7e	---						
L53B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Moon-----	20	3s	---						
Lester-----	10	3e	---						
L54A-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Dundas-----	20	2w	---						
Nessel-----	10	1	---						
L55B-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Malardi-----	20	3s	---						
Rasset-----	5	2e	---						
Eden Prairie-----	5	3s	---						
L55C-----				---	---	---	---	---	---
Urban land-----	70	---	---						
Malardi-----	20	4e	---						
Hawick-----	5	4s	---						
Crowfork-----	5	4s	---						
L56A-----				---	---	---	---	---	---
Muskego, frequently flooded-----	45	6w	---						
Klossner, frequently flooded-----	45	6w	---						
Suckercreek, frequently flooded-----	10	5w	---						
L58B-----				---	---	38	---	48	---
Koronis-----	60	2e	---						
Kingsley-----	25	2e	---						
Forestcity-----	10	2w	---						
Gotham-----	5	4s	---						
L58C2-----				---	---	36	---	45	---
Koronis, eroded-----	55	3e	---						
Kingsley, eroded-----	25	3e	---						
Forestcity-----	15	2w	---						
Gotham-----	5	6s	---						
L58D2-----				---	---	31	---	42	---
Koronis, eroded-----	55	4e	---						
Kingsley, eroded-----	25	4e	---						
Forestcity-----	15	2w	---						
Gotham-----	5	6s	---						
L58E-----				---	---	---	---	---	---
Koronis-----	55	7e	---						
Kingsley-----	25	7e	---						
Forestcity-----	15	2w	---						
Gotham-----	5	6s	---						
L59A-----				---	---	40	---	49	---
Forestcity-----	70	2w	---						
Lundlake, depressiona--	25	3w	---						
Marcellon-----	5	1	---						

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability		Irish potatoes		Soybeans		Spring wheat	
		N	I	N	I	N	I	N	I
				Cwt	Cwt	Bu	Bu	Bu	Bu
L60B-----				---	---	43	---	50	---
Angus-----	65	2e	---						
Moon-----	30	3s	---						
Hamel-----	5	2w	---						
L61C2-----				---	---	36	---	47	---
Lester, eroded-----	60	3e	---						
Metea, eroded-----	25	4e	---						
Terril-----	12	2e	---						
Hamel-----	3	2w	---						
L61D2-----				---	---	29	---	40	---
Lester, eroded-----	55	4e	---						
Metea, eroded-----	25	6e	---						
Terril-----	12	2e	---						
Ridgeton-----	5	3e	---						
Hamel-----	3	2w	---						
L61E-----				---	---	---	---	---	---
Lester-----	55	6e	---						
Metea-----	25	7e	---						
Terril-----	10	2e	---						
Hamel-----	5	2w	---						
Ridgeton-----	5	4e	---						
L62B-----				---	---	36	---	47	---
Koronis-----	55	3e	---						
Kingsley-----	20	3e	---						
Malardi-----	20	3s	---						
Forestcity-----	5	2w	---						
L62C2-----				---	---	32	---	43	---
Koronis, eroded-----	40	3e	---						
Kingsley, eroded-----	25	3e	---						
Malardi, eroded-----	25	4e	---						
Forestcity-----	10	2w	---						
L62D2-----				---	---	29	---	40	---
Koronis, eroded-----	40	4e	---						
Kingsley, eroded-----	25	4e	---						
Malardi, eroded-----	25	4e	---						
Forestcity-----	10	2w	---						
L62E-----				---	---	---	---	---	---
Koronis-----	40	7e	---						
Kingsley-----	25	7e	---						
Malardi-----	25	7e	---						
Forestcity-----	10	2w	---						
L64A-----				---	---	---	---	---	---
Tadkee-----	50	3w	---						
Tadkee, depressional----	36	6w	---						
Better drained soil-----	8	3s	---						
Granby-----	4	5w	---						
Less sandy soil-----	2	2w	---						
L70C2-----				---	---	35	---	45	---
Lester, eroded-----	60	3e	---						
Malardi, eroded-----	25	4e	---						
Terril-----	12	2e	---						
Hamel-----	3	2w	---						



Table 7b.--Land Capability and Yields per Acre of Crops--Continued

[illegible]

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

[illegible]

Table 8.--Forage Suitability Groups

(Absence of an entry indicates that a suitability group is not assigned.  
See text for information about forage suitability groups)

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D1B:			
Anoka, terrace-----	55	91	22
Zimmerman, terrace----	40	91	22
Kost-----	5	91	22
D1C:			
Anoka, terrace-----	45	91	22
Zimmerman, terrace----	45	91	22
Kost-----	10	91	22
D2A:			
Elkriver, rarely flooded-----	85	91	6
Mosford, rarely flooded-----	10	91	6
Elkriver, occasionally flooded-----	5	91	5
D3A:			
Elkriver, occasionally flooded-----	80	91	5
Fordum, frequently flooded-----	15	91	16
Winterfield, occasionally flooded	5	91	7
D4A:			
Dorset-----	90	91	22
Verndale, acid substratum-----	8	91	22
Almora-----	2	91	6
D4B:			
Dorset-----	85	91	22
Verndale, acid substratum-----	10	91	22
Almora-----	5	91	6
D4C:			
Dorset-----	75	91	22
Verndale, acid substratum-----	15	91	22
Almora-----	10	91	6

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D5B:			
Dorset-----	65	91	22
Two Inlets-----	25	91	22
Verndale, acid substratum-----	5	91	22
Southhaven-----	5	91	6
D5C:			
Dorset-----	55	91	22
Two Inlets-----	30	91	22
Southhaven-----	10	91	6
Verndale, acid substratum-----	5	91	22
D5D:			
Dorset-----	50	91	22
Two Inlets-----	35	91	22
Southhaven-----	10	91	6
Verndale, acid substratum-----	5	91	22
D6A:			
Verndale, acid substratum-----	90	91	22
Dorset-----	7	91	22
Hubbard-----	3	91	22
D6B:			
Verndale, acid substratum-----	85	91	22
Dorset-----	10	91	22
Hubbard-----	5	91	22
D6C:			
Verndale, acid substratum-----	80	91	22
Dorset-----	15	91	22
Hubbard-----	5	91	22
D7A:			
Hubbard-----	95	91	22
Mosford-----	5	91	22
D7B:			
Hubbard-----	90	91	22
Mosford-----	10	91	22

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D7C:			
Hubbard-----	80	91	22
Sandberg-----	10	91	22
Mosford-----	10	91	22
D8B:			
Sandberg-----	95	91	22
Arvilla, map>25-----	5	91	22
D8C:			
Sandberg-----	80	91	22
Corliss-----	15	91	22
Southhaven-----	5	91	6
D8D:			
Sandberg-----	80	91	22
Corliss-----	10	91	22
Southhaven-----	10	91	6
D8E:			
Sandberg-----	80	91	24
Corliss-----	10	91	24
Southhaven-----	10	91	6
D10A:			
Forada-----	95	91	5
Depressional soil-----	5	91	24
D11A:			
Lindaas-----	80	91	1
Lindaas, sandy substratum-----	10	91	1
Depressional soil-----	10	91	24
D12B:			
Bygland, MAP >25-----	70	91	2
Bygland, sandy substratum-----	15	91	2
Lindaas-----	10	91	1
Depressional soil-----	5	91	24
D12C2:			
Bygland, MAP >25-----	70	91	2
Bygland, sandy substratum-----	15	91	2

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D12C2:			
Lindaas-----	10	91	1
Depressional soil----	5	91	24
D13A:			
Langola, terrace-----	85	91	8
Duelm-----	10	91	8
Hubbard-----	5	91	22
D13B:			
Langola, terrace-----	85	91	8
Hubbard-----	10	91	22
Duelm-----	5	91	8
D15A:			
Seelyeville, drained--	65	91	14
Markey, drained-----	25	91	14
Mineral soil, drained	10	91	13
D16A:			
Seelyeville, ponded---	45	91	24
Markey, ponded-----	45	91	24
Mineral soil, ponded--	10	91	24
D17A:			
Duelm-----	90	91	8
Isan-----	8	91	7
Hubbard-----	2	91	22
D18B:			
Braham, terrace-----	85	91	6
Duelm-----	15	91	8
D19A:			
Fordum, frequently flooded-----	65	91	16
Winterfield, frequently flooded---	25	91	7
Fordum, occasionally flooded-----	10	91	5
D20A:			
Isan-----	85	91	7
Isan, depressional----	10	91	24
Duelm-----	5	91	8



Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D21A:			
Isan, depressional----	85	91	24
Isan-----	15	91	7
D23A:			
Southhaven-----	90	91	6
Dorset-----	5	91	22
Mosford-----	5	91	22
D24A:			
Sedgeville, occasionally flooded	85	91	9
Elkriver, occasionally flooded-----	15	91	5
D25A:			
Soderville, terrace---	90	91	8
Forada-----	10	91	5
D26A:			
Foldahl, MAP >25-----	90	91	6
Hubbard-----	5	91	22
Isan-----	5	91	7
D27A:			
Dorset, loamy substratum-----	80	91	6
Dorset-----	15	91	22
Southhaven-----	5	91	6
D28B:			
Urban land-----	75	91	---
Bygland, MAP >25-----	20	91	2
Bygland, sandy substratum-----	5	91	2
D29B:			
Urban land-----	70	91	---
Hubbard, bedrock substratum-----	20	91	22
Hubbard-----	5	91	22
Mosford-----	5	91	22
D30A:			
Seelyeville, surface drained-----	45	91	24
Markey, surface drained-----	45	91	24

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D30A: Mineral soil, surface drained-----	10	91	24
D31A: Urban land-----	70	91	---
Duelm-----	20	91	8
Hubbard-----	5	91	22
Isan-----	5	91	7
D33B: Urban land-----	70	91	---
Dorset-----	20	91	22
Verndale, acid substratum-----	5	91	22
Hubbard-----	5	91	22
D33C: Urban land-----	70	91	---
Dorset-----	20	91	22
Verndale, acid substratum-----	5	91	22
Hubbard-----	5	91	22
D34B: Urban land-----	75	91	---
Hubbard-----	20	91	22
Mosford-----	5	91	22
D35A: Elkriver, occasionally flooded-----	70	91	5
Fordum, occasionally flooded-----	20	91	16
Udipsamments-----	5	91	24
Winterfield, occasionally flooded	5	91	7
D37F: Dorset, bedrock substratum-----	70	91	24
Rock outcrop-----	20	91	24
Hubbard, bedrock substratum-----	10	91	22

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
D40A:			
Kratka, thick solum---	80	91	5
Duelm-----	10	91	8
Foldahl, MAP >25-----	10	91	6
D41C:			
Urban land-----	75	91	---
Waukon-----	20	91	2
Braham-----	5	91	6
D43A:			
Gonvick, terrace-----	85	91	1
Braham-----	15	91	6
GP:			
Pits, gravel- Udipsamments			
L2B:			
Malardi-----	65	103	22
Hawick-----	25	103	22
Rasset-----	5	103	6
Eden Prairie-----	5	103	22
L2C:			
Malardi-----	60	103	22
Hawick-----	25	103	22
Tomall-----	10	103	2
Crowfork-----	5	103	22
L2D:			
Malardi-----	55	103	22
Hawick-----	30	103	22
Tomall-----	10	103	2
Crowfork-----	5	103	22
L2E:			
Malardi-----	55	103	24
Hawick-----	30	103	24
Tomall-----	15	103	2
L3A:			
Rasset-----	90	103	6
Malardi-----	8	103	22
Eden Prairie-----	2	103	22

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L3B:			
Rasset-----	80	103	6
Malardi-----	15	103	22
Eden Prairie-----	5	103	22
L3C:			
Rasset-----	75	103	6
Malardi-----	10	103	22
Tomall-----	10	103	2
Eden Prairie-----	5	103	22
L4B:			
Crowfork-----	90	103	22
Eden Prairie-----	10	103	22
L4C:			
Crowfork-----	90	103	22
Eden Prairie-----	10	103	22
L4D:			
Crowfork-----	85	103	22
Eden Prairie-----	15	103	22
L6A:			
Biscay-----	85	103	1
Biscay, depressional--	10	103	24
Mayer-----	5	103	9
L7A:			
Biscay, depressional--	80	103	24
Biscay-----	15	103	1
Mayer-----	5	103	9
L8A:			
Darfur-----	95	103	5
Dassel-----	5	103	24
L9A:			
Minnetonka-----	90	103	1
Depressional soil----	10	103	24
L10B:			
Kasota-----	80	103	2
Eden Prairie-----	10	103	22
Wet soil in swales----	10	103	1

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L11B:			
Grays-----	90	103	6
Kasota-----	5	103	2
Crowfork-----	5	103	22
L12A:			
Muskego, frequently flooded-----	30	103	24
Blue Earth, frequently flooded-----	30	103	24
Houghton, frequently flooded-----	30	103	24
Oshawa, frequently flooded-----	10	103	24
L13A:			
Klossner, drained----	80	103	14
Mineral soil, drained	15	103	13
Houghton, drained----	5	103	14
L14A:			
Houghton, drained----	80	103	14
Klossner, drained----	10	103	14
Mineral soil, drained	10	103	13
L15A:			
Klossner, ponded-----	30	103	24
Okoboji, ponded-----	30	103	24
Glencoe, ponded-----	30	103	24
Houghton, ponded-----	10	103	24
L16A:			
Muskego, ponded-----	30	103	24
Blue Earth, ponded----	30	103	24
Houghton, ponded-----	30	103	24
Klossner, ponded-----	10	103	24
L17B:			
Angus-----	50	103	6
Malardi-----	30	103	22
Moon-----	10	103	6
Cordova-----	10	103	1

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L18A:			
Shields-----	85	103	5
Lerdal-----	10	103	5
Mazaska-----	5	103	5
L19B:			
Moon-----	85	103	6
Finchford-----	15	103	22
L20B:			
Fedji, silty substratum-----	85	103	6
Finchford-----	15	103	22
L21A:			
Canisteo-----	80	103	9
Cordova-----	15	103	1
Glencoe-----	5	103	13
L22C2:			
Lester, eroded-----	70	103	6
Angus-----	15	103	6
Terril-----	12	103	2
Hamel-----	3	103	1
L22D2:			
Lester, eroded-----	80	103	23
Terril-----	10	103	2
Hamel-----	5	103	1
Ridgeton-----	5	103	2
L22E:			
Lester, morainic-----	75	103	17
Terril-----	15	103	2
Hamel-----	5	103	1
Ridgeton-----	5	103	23
L22F:			
Lester, morainic-----	75	103	24
Terril-----	10	103	2
Ridgeton-----	10	103	23
Hamel-----	5	103	1



Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L23A:			
Cordova-----	85	103	1
Glencoe-----	10	103	13
Nessel-----	5	103	6
L24A:			
Glencoe, depressional	90	103	13
Cordova-----	10	103	1
L25A:			
Le Sueur-----	80	103	6
Cordova-----	15	103	1
Angus-----	5	103	6
L26A:			
Shorewood-----	85	103	1
Minnetonka-----	10	103	1
Good Thunder-----	5	103	6
L26B:			
Shorewood-----	90	103	2
Good Thunder-----	5	103	6
Minnetonka-----	5	103	1
L26C2:			
Shorewood, eroded----	95	103	2
Minnetonka-----	5	103	1
L27A:			
Suckercreek, frequently flooded---	85	103	16
Suckercreek, occasionally flooded	10	103	9
Hanlon, occasionally flooded-----	5	103	2
L28A:			
Suckercreek, occasionally flooded	80	103	9
Suckercreek, frequently flooded---	10	103	16
Hanlon, occasionally flooded-----	10	103	2
L29A:			
Hanlon, occasionally flooded-----	80	103	2

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L29A:			
Suckercreek, occasionally flooded	10	103	9
Suckercreek, frequently flooded---	10	103	16
L30A:			
Medo, surface drained	65	103	24
Medo, drained-----	20	103	14
Mineral soil, drained	15	103	13
L31A:			
Medo, ponded-----	30	103	24
Dassel, ponded-----	30	103	24
Biscay, ponded-----	30	103	24
Houghton, ponded-----	5	103	24
Muskego, ponded-----	5	103	24
L32D:			
Hawick-----	75	103	22
Crowfork-----	15	103	22
Tomall-----	10	103	2
L32F:			
Hawick-----	75	103	24
Crowfork-----	15	103	24
Tomall-----	10	103	2
L35A:			
Lerdal-----	80	103	5
Mazaska-----	10	103	5
Cordova-----	5	103	1
Le Sueur-----	5	103	6
L36A:			
Hamel, overwash-----	50	103	1
Hamel-----	43	103	1
Terril-----	5	103	2
Glencoe-----	2	103	13
L37B:			
Angus, morainic-----	80	103	6
Angus, eroded-----	10	103	6
Le Sueur-----	5	103	6

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L37B: Cordova-----	5	103	1
L38A: Rushriver, occasionally flooded	75	103	9
Oshawa, frequently flooded-----	15	103	24
Minneiska, occasionally flooded	5	103	10
Algansee, occasionally flooded-----	5	103	7
L39A: Minneiska, occasionally flooded	70	103	10
Rushriver, occasionally flooded	15	103	9
Oshawa, frequently flooded-----	10	103	24
Algansee, occasionally flooded-----	5	103	7
L40B: Angus-----	45	103	6
Kilkenny-----	40	103	6
Lerdal-----	10	103	5
Mazaska-----	5	103	5
L41C2: Lester, eroded-----	45	103	6
Kilkenny, eroded-----	40	103	6
Terril-----	10	103	2
Derrynane-----	5	103	1
L41D2: Lester, eroded-----	45	103	23
Kilkenny, eroded-----	35	103	23
Terril-----	10	103	2
Derrynane-----	5	103	1
Ridgeton-----	5	103	2
L41E: Lester-----	45	103	17
Kilkenny-----	40	103	17

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L41E:			
Terril-----	5	103	2
Derrynane-----	5	103	1
Ridgeton-----	5	103	23
L41F:			
Lester-----	45	103	24
Kilkenny-----	35	103	24
Ridgeton-----	10	103	23
Terril-----	5	103	2
Derrynane-----	5	103	1
L42B:			
Kingsley-----	70	103	6
Gotham-----	25	103	22
Grays-----	5	103	6
L42C:			
Kingsley-----	70	103	6
Gotham-----	25	103	22
Grays-----	5	103	6
L42D:			
Kingsley-----	70	103	23
Gotham-----	25	103	22
Grays-----	5	103	6
L42E:			
Kingsley-----	70	103	17
Gotham-----	25	103	18
Grays-----	5	103	6
L42F:			
Kingsley-----	70	103	24
Gotham-----	25	103	24
Grays-----	5	103	6
L43A:			
Brouillett, occasionally flooded	80	103	1
Minneiska, occasionally flooded	10	103	10
Rushriver, occasionally flooded	10	103	9

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L44A:			
Nessel-----	85	103	6
Cordova-----	10	103	1
Angus-----	5	103	6
L45A:			
Dundas-----	65	103	1
Cordova-----	25	103	1
Nessel-----	5	103	6
Glencoe-----	5	103	13
L46A:			
Tomall-----	80	103	2
Rasset-----	10	103	6
Malardi-----	10	103	22
L47A:			
Eden Prairie-----	85	103	22
Malardi-----	10	103	22
Rasset-----	5	103	6
L47B:			
Eden Prairie-----	80	103	22
Malardi-----	10	103	22
Rasset-----	10	103	6
L47C:			
Eden Prairie-----	70	103	22
Malardi-----	10	103	22
Rasset-----	10	103	6
Hawick-----	10	103	22
L49A:			
Klossner, surface drained-----	65	103	24
Klossner, drained----	20	103	14
Mineral soil, drained	15	103	13
L50A:			
Houghton, surface drained-----	40	103	24
Muskego, surface drained-----	40	103	24
Klossner, drained----	10	103	14
Mineral soil, drained	10	103	13

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L52C:			
Urban land-----	75	103	---
Lester-----	20	103	6
Kingsley-----	5	103	6
L52E:			
Urban land-----	75	103	---
Lester-----	20	103	17
Kingsley-----	5	103	17
L53B:			
Urban land-----	70	103	---
Moon-----	20	103	6
Lester-----	10	103	6
L54A:			
Urban land-----	70	103	---
Dundas-----	20	103	1
Nessel-----	10	103	6
L55B:			
Urban land-----	70	103	---
Malardi-----	20	103	22
Rasset-----	5	103	6
Eden Prairie-----	5	103	22
L55C:			
Urban land-----	70	103	---
Malardi-----	20	103	22
Hawick-----	5	103	22
Crowfork-----	5	103	22
L56A:			
Muskego, frequently flooded-----	45	103	24
Klossner, frequently flooded-----	45	103	24
Suckercreek, frequently flooded---	10	103	24
L58B:			
Koronis-----	60	103	6
Kingsley-----	25	103	6
Forestcity-----	10	103	5
Gotham-----	5	103	22



Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L58C2:			
Koronis, eroded-----	55	103	6
Kingsley, eroded-----	25	103	6
Forestcity-----	15	103	5
Gotham-----	5	103	22
L58D2:			
Koronis, eroded-----	55	103	23
Kingsley, eroded-----	25	103	23
Forestcity-----	15	103	5
Gotham-----	5	103	22
L58E:			
Koronis-----	55	103	17
Kingsley-----	25	103	17
Forestcity-----	15	103	5
Gotham-----	5	103	18
L59A:			
Forestcity-----	70	103	5
Lundlake, depressional	25	103	13
Marcellon-----	5	103	6
L60B:			
Angus-----	65	103	6
Moon-----	30	103	6
Hamel-----	5	103	1
L61C2:			
Lester, eroded-----	60	103	6
Metea, eroded-----	25	103	6
Terril-----	12	103	2
Hamel-----	3	103	1
L61D2:			
Lester, eroded-----	55	103	23
Metea, eroded-----	25	103	23
Terril-----	12	103	2
Ridgeton-----	5	103	2
Hamel-----	3	103	1

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L61E:			
Lester-----	55	103	17
Metea-----	25	103	17
Terril-----	10	103	2
Hamel-----	5	103	1
Ridgeton-----	5	103	23
L62B:			
Koronis-----	55	103	6
Kingsley-----	20	103	6
Malardi-----	20	103	22
Forestcity-----	5	103	5
L62C2:			
Koronis, eroded-----	40	103	6
Kingsley, eroded-----	25	103	6
Malardi, eroded-----	25	103	22
Forestcity-----	10	103	5
L62D2:			
Koronis, eroded-----	40	103	23
Kingsley, eroded-----	25	103	23
Malardi, eroded-----	25	103	22
Forestcity-----	10	103	5
L62E:			
Koronis-----	40	103	17
Kingsley-----	25	103	17
Malardi-----	25	103	18
Forestcity-----	10	103	5
L64A:			
Tadkee-----	50	103	5
Tadkee, depressional--	36	103	24
Better drained soil---	8	103	6
Granby-----	4	103	24
Less sandy soil-----	2	103	5
L70C2:			
Lester, eroded-----	60	103	6
Malardi, eroded-----	25	103	22

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L70C2:			
Terril-----	12	103	2
Hamel-----	3	103	1
L70D2:			
Lester, eroded-----	55	103	23
Malardi, eroded-----	25	103	22
Terril-----	12	103	2
Ridgeton-----	5	103	2
Hamel-----	3	103	1
L70E:			
Lester-----	55	103	17
Malardi-----	25	103	24
Terril-----	10	103	2
Hamel-----	5	103	1
Ridgeton-----	5	103	23
L71C:			
Metee-----	80	103	6
Lester-----	15	103	6
Moon-----	5	103	6
L72A:			
Lundlake, depressiona	90	103	13
Forestcity-----	10	103	5
L110E:			
Lester-----	50	103	17
Ridgeton-----	30	103	23
Cokato-----	10	103	17
Belview-----	6	103	17
Hamel-----	2	103	1
Terril-----	2	103	2
L110F:			
Lester-----	55	103	24
Ridgeton-----	30	103	23
Cokato-----	8	103	24
Belview-----	4	103	24
Terril-----	2	103	1
Hamel-----	1	103	1

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	MLRA	Forage suitability group
L131A:			
Litchfield-----	85	103	5
Darfur-----	10	103	5
Crowfork-----	5	103	22
L132A:			
Hamel-----	50	103	1
Glencoe, depressional	30	103	13
Hamel, overwash-----	15	103	2
Terril-----	5	103	2
M-W. Water, miscellaneous			
U1A. Urban land-Udorthents, wet substratum			
U2A. Udorthents, wet substratum			
U3B. Udorthents (cut and fill land)			
U4A. Urban land- Udipsamments (cut and fill land)			
U5A. Urban land-Udorthents, wet substratum			
U6B. Urban land-Udorthents (cut and fill land)			
W. Water			

Table 9.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
D2A	Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded
D3A	Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
D10A	Forada sandy loam, 0 to 2 percent slopes (where drained)
D11A	Lindaas silt loam, 0 to 2 percent slopes (where drained)
D12B	Bygland silt loam, MAP >25, 2 to 6 percent slopes
D23A	Southhaven loam, 0 to 2 percent slopes
D24A	Sedgeville loam, 0 to 2 percent slopes, occasionally flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
D43A	Gonvick loam, terrace, 1 to 3 percent slopes
L3A	Rasset sandy loam, 0 to 2 percent slopes
L3B	Rasset sandy loam, 2 to 6 percent slopes
L6A	Biscay loam, 0 to 2 percent slopes (where drained)
L8A	Darfur sandy loam, 0 to 2 percent slopes (where drained)
L9A	Minnetonka silty clay loam, 0 to 2 percent slopes (where drained)
L10B	Kasota silty clay loam, 1 to 6 percent slopes
L11B	Grays very fine sandy loam, 2 to 8 percent slopes
L17B	Angus-Malardi complex, 2 to 6 percent slopes
L18A	Shields silty clay loam, 0 to 3 percent slopes (where drained)
L21A	Canisteo loam, 0 to 2 percent slopes (where drained)
L23A	Cordova loam, 0 to 2 percent slopes (where drained)
L24A	Glencoe loam, depressional, 0 to 1 percent slopes (where drained)
L25A	Le Sueur loam, 1 to 3 percent slopes
L26A	Shorewood silty clay loam, 0 to 3 percent slopes
L26B	Shorewood silty clay loam, 3 to 6 percent slopes
L28A	Sucker creek fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
L29A	Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
L35A	Lerdal loam, 1 to 3 percent slopes
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes (where drained)
L37B	Angus loam, morainic, 2 to 5 percent slopes
L38A	Rushriver very fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
L39A	Minneiska fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes
L43A	Brouillett loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
L44A	Nessel loam, 1 to 3 percent slopes
L45A	Dundas-Cordova complex, 0 to 3 percent slopes (where drained)
L46A	Tomall loam, 0 to 2 percent slopes
L58B	Koronis-Kingsley complex, 2 to 6 percent slopes
L59A	Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes (where drained)
L60B	Angus-Moon complex, 2 to 5 percent slopes
L62B	Koronis-Kingsley-Malardi complex, 2 to 6 percent slopes
L72A	Lundlake loam, depressional, 0 to 1 percent slopes (where drained)
L132A	Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes (where drained)

Table 10.--Windbreaks and Environmental Plantings

(Only the map units that include soils suitable for windbreaks and environmental plantings are listed. Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D1B: Anoka, terrace-----	55	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Zimmerman, terrace-----	40	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D1B: Kost-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D1C: Anoka, terrace-----	45	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Zimmerman, terrace-----	45	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D1C: Kost-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D2A: Elkriver, rarely flooded	85	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Mosford, rarely flooded	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D2A: Elkriver, occasionally flooded-----	5	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
D3A: Elkriver, occasionally flooded-----	80	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Fordum, frequently flooded-----	15	---	---	---	---	---
Winterfield, occasionally flooded---	5	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
D4A: Dorset-----	90	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D4A: Verndale, acid substratum-----	8	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Almora-----	2	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
D4B: Dorset-----	85	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Verndale, acid substratum-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Almora-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D4C: Dorset-----	75	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Verndale, acid substratum-----	15	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Almora-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
D5B: Dorset-----	65	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D5B: Two Inlets-----	25	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Verndale, acid substratum-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Southhaven-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
D5C: Dorset-----	55	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D5C: Two Inlets-----	30	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Southhaven-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
Verndale, acid substratum-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
D5D: Dorset-----	50	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D5D: Two Inlets-----	35	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Southhaven-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
Verndale, acid substratum-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
D6A: Verndale, acid substratum-----	90	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D6A:						
Dorset-----	7	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Hubbard-----	3	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D6B:						
Verndale, acid substratum-----	85	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Dorset-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D6B: Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D6C: Verndale, acid substratum-----	80	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Dorset-----	15	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D6C: Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D7A: Hubbard-----	95	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Mosford-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D7B: Hubbard-----	90	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Mosford-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D7C: Hubbard-----	80	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Sandberg-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Mosford-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D8B: Sandberg-----	95	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Arvilla, MAP >25-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
D8C: Sandberg-----	80	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D8C: Corliss-----	15	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Southhaven-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
D8D: Sandberg-----	80	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D8D: Corliss-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Southhaven-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
D8E: Sandberg-----	80	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D8E: Corliss-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Southhaven-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
D10A: Forada-----	95	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Depressional soil-----	5	---	---	---	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D11A: Lindaas-----	80	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Lindaas, sandy substratum-----	10	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Depressional soil-----	10	---	---	---	---	---
D12B: Bygland, MAP >25-----	70	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry	Black Hills spruce, Manchurian crabapple, Russian- olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry	American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple	Eastern cottonwood, Siouxland cottonwood, Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D12B: Bygland, sandy substratum-----	15	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry	Black Hills spruce, Manchurian crabapple, Russian- olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry	American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple	Eastern cottonwood, Siouxland cottonwood, Carolina poplar
Lindaas-----	10	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Depressional soil-----	5	---	---	---	---	---
D12C2: Bygland, MAP >25-----	70	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry	Black Hills spruce, Manchurian crabapple, Russian- olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry	American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple	Eastern cottonwood, Siouxland cottonwood, Carolina poplar



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D12C2: Bygland, sandy substratum-----	15	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry	Black Hills spruce, Manchurian crabapple, Russian- olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry	American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple	Eastern cottonwood, Siouxland cottonwood, Carolina poplar
Lindaas-----	10	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Depressional soil-----	5	---	---	---	---	---
D13A: Langola, terrace-----	85	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D13A: Duelm-----	10	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D13B: Langola, terrace-----	85	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D13B: Hubbard-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Duelm-----	5	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
D15A: Seelyeville, drained---	65	Common ninebark----	Redosier dogwood, silky dogwood	Tamarack, black ash, green ash, tall purple willow	Golden willow, white willow	Imperial Carolina poplar
Markey, drained-----	25	Common ninebark----	Redosier dogwood, silky dogwood	Tamarack, black ash, green ash, tall purple willow	Golden willow, white willow	Imperial Carolina poplar
Mineral soil, drained---	10	Redosier dogwood----	Silky dogwood-----	Tamarack, green ash, black ash, northern whitecedar	Eastern cottonwood, golden willow	Imperial Carolina poplar
D17A: Duelm-----	90	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D17A: Isan-----	8	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Hubbard-----	2	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D18B: Braham, terrace-----	85	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D18B: Duelm-----	15	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
D19A: Fordum, frequently flooded-----	65	---	---	---	---	---
Winterfield, frequently flooded-----	25	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Fordum, occasionally flooded-----	10	---	---	---	---	---
D20A: Isan-----	85	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Isan, depressional-----	10	---	---	---	---	---
Duelm-----	5	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D21A: Isan, depressional-----	85	---	---	---	---	---
Isan-----	15	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
D23A: Southhaven-----	90	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
Dorset-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Mosford-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D24A: Sedgeville, occasionally flooded-----	85	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
Elkriver, occasionally flooded-----	15	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
D25A: Soderville, terrace-----	90	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Forada-----	10	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D26A: Foldahl, MAP >25-----	90	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood
Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Isan-----	5	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D27A:						
Dorset, loamy substratum	80	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Dorset-----	15	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Southhaven-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
D28B:						
Urban land-----	75	---	---	---	---	---
Bygland, MAP >25-----	20	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry	Black Hills spruce, Manchurian crabapple, Russian- olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry	American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple	Eastern cottonwood, Siouxland cottonwood, Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D28B: Bygland, sandy substratum-----	5	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry	Black Hills spruce, Manchurian crabapple, Russian- olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry	American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple	Eastern cottonwood, Siouxland cottonwood, Carolina poplar
D29B: Urban land-----	70	---	---	---	---	---
Hubbard, bedrock substratum-----	20	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D29B: Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Mosford-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D31A: Urban land-----	70	---	---	---	---	---
Duelm-----	20	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D31A: Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
Isan-----	5	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar
D33B: Urban land-----	70	---	---	---	---	---
Dorset-----	20	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D33B: Verndale, acid substratum-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D33C: Urban land-----	70	---	---	---	---	---
Dorset-----	20	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Verndale, acid substratum-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D33C: Hubbard-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D34B: Urban land-----	75	---	---	---	---	---
Hubbard-----	20	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D34B: Mosford-----	5	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D35A: Elkriver, occasionally flooded-----	70	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Fordum, occasionally flooded-----	20	---	---	---	---	---
Udipsamments-----	5	---	---	---	---	---
Winterfield, occasionally flooded---	5	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D37F: Dorset, bedrock substratum-----	70	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Rock outcrop-----	20	---	---	---	---	---
Hubbard, bedrock substratum-----	10	Cotoneaster, western sandcherry	Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar	American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple	Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood	Siberian elm, imperial Carolina poplar
D40A: Kratka, thick solum----	80	Nanking cherry-----	American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry	Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian- olive, common hackberry	Norway spruce, green ash, red pine, golden willow	Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D40A: Duelm-----	10	Peking cotoneaster, western sandcherry	Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry	Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce	Northern red oak, red pine, eastern white pine, green ash	Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood
Foldahl, MAP >25-----	10	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood
D41C: Urban land-----	75	---	---	---	---	---
Waukon-----	20	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
D41C: Braham-----	5	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood
D43A: Gonvick, terrace-----	85	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce	Norway spruce, green ash, eastern white pine, silver maple	Eastern cottonwood, Siouxland cottonwood
Braham-----	15	Peking cotoneaster, hedge cotoneaster	American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry	Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian- olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine	Green ash, eastern white pine, jack pine, Siberian elm	Silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L2B: Malardi-----	65	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Hawick-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Rasset-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Eden Prairie-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L2C: Malardi-----	60	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L2C: Hawick-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Tomall-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Crowfork-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L2D: Malardi-----	55	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Hawick-----	30	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L2D: Tomall-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Crowfork-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L2E: Malardi-----	55	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Hawick-----	30	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Tomall-----	15	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L3A: Rasset-----	90	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Malardi-----	8	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Eden Prairie-----	2	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L3B: Rasset-----	80	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Malardi-----	15	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L3B: Eden Prairie-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L3C: Rasset-----	75	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Malardi-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Tomall-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Eden Prairie-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L4B: Crowfork-----	90	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Eden Prairie-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L4C: Crowfork-----	90	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Eden Prairie-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L4D: Crowfork-----	85	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L4D: Eden Prairie-----	15	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L6A: Biscay-----	85	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Biscay, depressional----	10	---	---	---	---	---
Mayer-----	5	Redosier dogwood----	Common chokecherry, common lilac, American plum, silver buffaloberry	Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine	Green ash-----	Golden willow, eastern cottonwood, Siouxland cottonwood
L7A: Biscay, depressional----	80	---	---	---	---	---
Biscay-----	15	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Mayer-----	5	Redosier dogwood----	Common chokecherry, common lilac, American plum, silver buffaloberry	Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine	Green ash-----	Golden willow, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L8A: Darfur-----	95	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Dassel-----	5	---	---	---	---	---
L9A: Minnetonka-----	90	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Depressional soil-----	10	---	---	---	---	---
L10B: Kasota-----	80	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Eden Prairie-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Wet soil in swales-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L11B: Grays-----	90	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kasota-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Crowfork-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L13A: Klossner, drained-----	80	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
Mineral soil, drained---	15	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
Houghton, drained-----	5	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
L14A: Houghton, drained-----	80	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
Klossner, drained-----	10	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
Mineral soil, drained---	10	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L17B: Angus-----	50	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Malardi-----	30	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Moon-----	10	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Cordova-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L18A: Shields-----	85	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L18A: Lerdal-----	10	Hedge cotoneaster---	American cranberrybush, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine	Green ash-----	Silver maple, eastern cottonwood
Mazaska-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L19B: Moon-----	85	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Finchford-----	15	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L20B: Fedji, silty substratum	85	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L20B: Finchford-----	15	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L21A: Canisteo-----	80	Redosier dogwood----	Common chokecherry, common lilac, American plum, silver buffaloberry	Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine	Green ash-----	Golden willow, eastern cottonwood, Siouxland cottonwood
Cordova-----	15	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Glencoe-----	5	---	---	---	---	---
L22C2: Lester, eroded-----	70	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Angus-----	15	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L22C2: Terril-----	12	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	3	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L22D2: Lester, eroded-----	80	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L22D2: Hamel-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L22E: Lester, morainic-----	75	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	15	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L22E: Hamel-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L22F: Lester, morainic-----	75	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L22F: Ridgeton-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L23A: Cordova-----	85	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Glencoe-----	10	---	---	---	---	---
Nessel-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L24A: Glencoe, depressional---	90	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L24A: Cordova-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L25A: Le Sueur-----	80	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Cordova-----	15	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Angus-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L26A: Shorewood-----	85	Hedge cotoneaster---	American cranberrybush, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine	Green ash-----	Silver maple, eastern cottonwood
Minnetonka-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Good Thunder-----	5	Hedge cotoneaster---	American cranberrybush, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine	Green ash-----	Silver maple
L26B: Shorewood-----	90	Hedge cotoneaster---	American cranberrybush, Siberian peashrub, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine, red pine	Green ash, jack pine	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L26B: Good Thunder-----	5	Hedge cotoneaster---	American cranberrybush, Siberian peashrub, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, Russian- olive, ponderosa pine, common hackberry, eastern white pine, red pine	Green ash, jack pine	Silver maple, eastern cottonwood
Minnetonka-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L26C2: Shorewood, eroded-----	95	Hedge cotoneaster---	American cranberrybush, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine	Green ash-----	Silver maple, eastern cottonwood
Minnetonka-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L27A: Suckercreek, frequently flooded-----	85	---	---	---	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L27A: Suckercreek, occasionally flooded---	10	---	---	---	---	---
Hanlon, occasionally flooded-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L28A: Suckercreek, occasionally flooded---	80	---	---	---	---	---
Suckercreek, frequently flooded-----	10	---	---	---	---	---
Hanlon, occasionally flooded-----	10	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L29A: Hanlon, occasionally flooded-----	80	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Suckercreek, occasionally flooded---	10	---	---	---	---	---
Suckercreek, frequently flooded-----	10	---	---	---	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L30A: Medo, surface drained---	65	---	---	---	---	---
Medo, drained-----	20	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
Mineral soil, drained---	15	Redosier dogwood---	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
L32D: Hawick-----	75	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Crowfork-----	15	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Tomall-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L32F: Hawick-----	75	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L32F: Crowfork-----	15	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Tomall-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L35A: Lerdal-----	80	Hedge cotoneaster---	American cranberrybush, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine	Green ash-----	Silver maple, eastern cottonwood
Mazaska-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Cordova-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L35A: Le Sueur-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L36A: Hamel, overwash-----	50	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	43	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Terril-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Glencoe-----	2	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L37B:						
Angus, morainic-----	80	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Angus, eroded-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Le Sueur-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Cordova-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L38A:						
Rushriver, occasionally flooded-----	75	Redosier dogwood----	Common chokecherry, common lilac, American plum, silver buffaloberry	Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine	Green ash-----	Golden willow, eastern cottonwood, Siouxland cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L38A: Oshawa, frequently flooded-----	15	---	---	---	---	---
Minneiska, occasionally flooded-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry, blue spruce, gray dogwood	Eastern redcedar, white spruce, Black Hills spruce, common hackberry, ponderosa pine	Green ash, golden willow	Eastern cottonwood, Siouxland cottonwood
Algansee, occasionally flooded-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L39A: Minneiska, occasionally flooded-----	70	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry, blue spruce, gray dogwood	Eastern redcedar, white spruce, Black Hills spruce, common hackberry, ponderosa pine	Green ash, golden willow	Eastern cottonwood, Siouxland cottonwood
Rushriver, occasionally flooded-----	15	Redosier dogwood----	Common chokecherry, common lilac, American plum, silver buffaloberry	Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine	Green ash-----	Golden willow, eastern cottonwood, Siouxland cottonwood
Oshawa, frequently flooded-----	10	---	---	---	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L39A: Algansee, occasionally flooded-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L40B: Angus-----	45	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kilkenny-----	40	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Lerdal-----	10	Hedge cotoneaster---	American cranberrybush, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine	Green ash-----	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L40B: Mazaska-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L41C2: Lester, eroded-----	45	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kilkenny, eroded-----	40	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Derrynane-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L41D2: Lester, eroded-----	45	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kilkenny, eroded-----	35	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Derrynane-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L41E: Lester-----	45	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kilkenny-----	40	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Derrynane-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L41F: Lester-----	45	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kilkenny-----	35	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Ridgeton-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Derrynane-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L42B: Kingsley-----	70	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Gotham-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Grays-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L42C: Kingsley-----	70	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Gotham-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L42C: Grays-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L42D: Kingsley-----	70	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Gotham-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Grays-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L42E: Kingsley-----	70	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Gotham-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Grays-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L42F: Kingsley-----	70	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Gotham-----	25	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L42F: Grays-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L43A: Brouillett, occasionally flooded-----	80	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry, blue spruce, gray dogwood	Eastern redcedar, white spruce, Black Hills spruce, common hackberry, ponderosa pine	Green ash, golden willow	Eastern cottonwood, Siouxland cottonwood
Minneiska, occasionally flooded-----	10	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry, blue spruce, gray dogwood	Eastern redcedar, white spruce, Black Hills spruce, common hackberry, ponderosa pine	Green ash, golden willow	Eastern cottonwood, Siouxland cottonwood
Rushriver, occasionally flooded-----	10	Redosier dogwood----	Common chokecherry, common lilac, American plum, silver buffaloberry	Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine	Green ash-----	Golden willow, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L44A: Nessel-----	85	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Cordova-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Angus-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L45A: Dundas-----	65	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Cordova-----	25	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L45A: Nessel-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Glencoe-----	5	---	---	---	---	---
L46A: Tomall-----	80	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Rasset-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Malardi-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L47A: Eden Prairie-----	85	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L47A: Malardi-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Rasset-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L47B: Eden Prairie-----	80	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Malardi-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Rasset-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L47C:						
Eden Prairie-----	70	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Malardi-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Rasset-----	10	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Hawick-----	10	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L49A:						
Klossner, surface drained-----	65	---	---	---	---	---
Klossner, drained-----	20	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
Mineral soil, drained---	15	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
L50A:						
Houghton, surface drained-----	40	---	---	---	---	---



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L50A: Muskego, surface drained	40	---	---	---	---	---
Klossner, drained-----	10	---	Redosier dogwood, silky dogwood	Black ash-----	Golden willow-----	---
Mineral soil, drained---	10	Redosier dogwood---	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
L52C: Urban land-----	75	---	---	---	---	---
Lester-----	20	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kingsley-----	5	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
L52E: Urban land-----	75	---	---	---	---	---
Lester-----	20	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L52E: Kingsley-----	5	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
L53B: Urban land-----	70	---	---	---	---	---
Moon-----	20	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Lester-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L54A: Urban land-----	70	---	---	---	---	---
Dundas-----	20	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L54A: Nessel-----	10	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
L55B: Urban land-----	70	---	---	---	---	---
Malardi-----	20	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Rasset-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Eden Prairie-----	5	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
L55C: Urban land-----	70	---	---	---	---	---
Malardi-----	20	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L55C: Hawick-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
Crowfork-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L58B: Koronis-----	60	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kingsley-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Forestcity-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L58B: Gotham-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L58C2: Koronis, eroded-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kingsley, eroded-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Forestcity-----	15	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Gotham-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L58D2: Koronis, eroded-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kingsley, eroded-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Forestcity-----	15	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Gotham-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L58E: Koronis-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L58E: Kingsley-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Forestcity-----	15	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Gotham-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---
L59A: Forestcity-----	70	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Lundlake, depressional--	25	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
Marcellon-----	5	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L60B: Angus-----	65	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Moon-----	30	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Hamel-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L61C2: Lester, eroded-----	60	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Metea, eroded-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L61C2: Terril-----	12	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	3	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L61D2: Lester, eroded-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Metea, eroded-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L61D2: Terril-----	12	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	3	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L61E: Lester-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L61E: Metea-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Terril-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L62B: Koronis-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kingsley-----	20	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Malardi-----	20	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Forestcity-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L62C2: Koronis, eroded-----	40	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L62C2: Kingsley, eroded-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	silver maple, eastern cottonwood
Malardi, eroded-----	25	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Forestcity-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxlant cottonwood, eastern cottonwood
L62D2: Koronis, eroded-----	40	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxlant cottonwood
Kingsley, eroded-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L62D2: Malardi, eroded-----	25	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Forestcity-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L62E: Koronis-----	40	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Kingsley-----	25	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Malardi-----	25	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L62E: Forestcity-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L64A: Tadkee-----	50	---	---	---	---	---
Tadkee, depressional----	36	---	---	---	---	---
Better drained soil-----	8	---	Tatarian honeysuckle, common lilac, redosier dogwood	Eastern arborvitae, white spruce, Amur maple, blue spruce	Austrian pine, eastern white pine, common hackberry, green ash	Silver maple
Granby-----	4	---	---	---	---	---
Less sandy soil-----	2	---	---	---	---	---
L70C2: Lester, eroded-----	60	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Malardi, eroded-----	25	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L70C2: Terril-----	12	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	3	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L70D2: Lester, eroded-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Malardi, eroded-----	25	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Terril-----	12	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L70D2: Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Hamel-----	3	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L70E: Lester-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Malardi-----	25	Common lilac, hedge cotoneaster, late lilac	American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry	Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine	Green ash, silver maple	Eastern cottonwood
Terril-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L70E: Hamel-----	5	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
L71C: Metea-----	80	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood
Lester-----	15	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood
Moon-----	5	Hedge cotoneaster---	American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar	Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce	Eastern white pine, green ash	Silver maple, eastern cottonwood

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L72A: Lundlake, depressional--	90	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
Forestcity-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
L110E: Lester-----	50	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar
Ridgeton-----	30	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L110E: Cokato-----	10	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar
Belview-----	6	American plum, common lilac	Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar	Green ash, ponderosa pine, honeylocust	Eastern cottonwood	---
Hamel-----	2	---	American plum-----	Amur maple, redosier dogwood, eastern arborvitae, white spruce, common hackberry, tall purple willow	Golden willow-----	Green ash, silver maple, eastern cottonwood
Terril-----	2	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L110F: Lester-----	55	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar
Ridgeton-----	30	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar
Cokato-----	8	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar
Belview-----	4	American plum, common lilac	Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar	Green ash, ponderosa pine, honeylocust	Eastern cottonwood	---



Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L110F: Terril-----	2	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash, honeylocust, jack pine	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar
L131A: Litchfield-----	85	---	Nanking cherry, Siberian peashrub, common chokecherry, redosier dogwood, sargent crabapple, silver buffaloberry, American plum, common lilac	Black Hills spruce, Norway spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Darfur-----	10	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Crowfork-----	5	---	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple	Eastern white pine, Scotch pine, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of--				
		<8	8-15	16-25	26-35	>35
L132A: Hamel-----	50	Nanking cherry-----	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry	Eastern white pine, golden willow	Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Glencoe, depressional---	30	Redosier dogwood----	Silky dogwood-----	Green ash, northern whitecedar	Golden willow-----	Eastern cottonwood
Hamel, overwash-----	15	---	American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac	Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry	Eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood
Terril-----	5	Nanking cherry-----	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine	Green ash-----	Silver maple, eastern cottonwood, Siouxland cottonwood

Table 11.--Windbreak Suitability Groups

(Suitable shrubs and trees with their mature heights are listed in table 10. Absence of an entry indicates that a windbreak suitability group is not assigned)

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D1B:		
Anoka, terrace-----	55	7
Zimmerman, terrace----	40	7
Kost-----	5	7
D1C:		
Anoka, terrace-----	45	7
Zimmerman, terrace----	45	7
Kost-----	10	7
D2A:		
Elkriver, rarely flooded-----	85	1
Mosford, rarely flooded-----	10	7
Elkriver, occasionally flooded-----	5	1
D3A:		
Elkriver, occasionally flooded-----	80	1
Fordum, frequently flooded-----	15	10
Winterfield, occasionally flooded-	5	1
D4A:		
Dorset-----	90	6G
Verndale, acid substratum-----	8	6G
Almora-----	2	6G
D4B:		
Dorset-----	85	6G
Verndale, acid substratum-----	10	6G
Almora-----	5	6G
D4C:		
Dorset-----	75	6G
Verndale, acid substratum-----	15	6G
Almora-----	10	6G

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D5B:		
Dorset-----	65	6G
Two Inlets-----	25	7
Verndale, acid substratum-----	5	6G
Southhaven-----	5	3
D5C:		
Dorset-----	55	6G
Two Inlets-----	30	7
Southhaven-----	10	3
Verndale, acid substratum-----	5	6G
D5D:		
Dorset-----	50	6G
Two Inlets-----	35	7
Southhaven-----	10	3
Verndale, acid substratum-----	5	6G
D6A:		
Verndale, acid substratum-----	90	6G
Dorset-----	7	6G
Hubbard-----	3	7
D6B:		
Verndale, acid substratum-----	85	6G
Dorset-----	10	6G
Hubbard-----	5	7
D6C:		
Verndale, acid substratum-----	80	7
Dorset-----	15	6G
Hubbard-----	5	7
D7A:		
Hubbard-----	95	7
Mosford-----	5	7
D7B:		
Hubbard-----	90	7
Mosford-----	10	7

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D7C:		
Hubbard-----	80	7
Sandberg-----	10	7
Mosford-----	10	7
D8B:		
Sandberg-----	95	7
Arvilla, MAP >25-----	5	6G
D8C:		
Sandberg-----	80	7
Corliss-----	15	7
Southhaven-----	5	3
D8D:		
Sandberg-----	80	7
Corliss-----	10	7
Southhaven-----	10	3
D8E:		
Sandberg-----	80	7
Corliss-----	10	7
Southhaven-----	10	3
D10A:		
Forada-----	95	2
Depressional soil-----	5	10
D11A:		
Lindaas-----	80	2
Lindaas, sandy substratum-----	10	2
Depressional soil-----	10	10
D12B:		
Bygland, MAP >25-----	70	4
Bygland, sandy substratum-----	15	4
Lindaas-----	10	2
Depressional soil-----	5	10
D12C2:		
Bygland, MAP >25-----	70	4
Bygland, sandy substratum-----	15	4

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D12C2:		
Lindaas-----	10	2
Depressional soil----	5	10
D13A:		
Langola, terrace-----	85	5
Duelm-----	10	1
Hubbard-----	5	7
D13B:		
Langola, terrace-----	85	5
Hubbard-----	10	7
Duelm-----	5	1
D15A:		
Seelyeville, drained--	65	2H
Markey, drained-----	25	2H
Mineral soil, drained	10	2
D16A:		
Seelyeville, ponded---	45	10
Markey, ponded-----	45	10
Mineral soil, ponded--	10	10
D17A:		
Duelm-----	90	1
Isan-----	8	2
Hubbard-----	2	7
D18B:		
Braham, terrace-----	85	5
Duelm-----	15	1
D19A:		
Fordum, frequently flooded-----	65	10
Winterfield, frequently flooded---	25	1
Fordum, occasionally flooded-----	10	10
D20A:		
Isan-----	85	2
Isan, depressional----	10	10
Duelm-----	5	1

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D21A:		
Isan, depressional----	85	10
Isan-----	15	2
D23A:		
Southhaven-----	90	3
Dorset-----	5	6G
Mosford-----	5	7
D24A:		
Sedgeville, occasionally flooded	85	2
Elkriver, occasionally flooded-----	15	1
D25A:		
Soderville, terrace---	90	1
Forada-----	10	2
D26A:		
Foldahl, MAP >25-----	90	5
Hubbard-----	5	7
Isan-----	5	2
D27A:		
Dorset, loamy substratum-----	80	6G
Dorset-----	15	6G
Southhaven-----	5	3
D28B:		
Urban land-----	75	---
Bygland, MAP >25-----	20	4
Bygland, sandy substratum-----	5	4
D29B:		
Urban land-----	70	---
Hubbard, bedrock substratum-----	20	7
Hubbard-----	5	7
Mosford-----	5	7
D30A:		
Seelyeville, surface drained-----	45	10
Markey, surface drained-----	45	10



Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D30A: Mineral soil, surface drained-----	10	10
D31A: Urban land-----	70	---
Duelm-----	20	1
Hubbard-----	5	7
Isan-----	5	2
D33B: Urban land-----	70	---
Dorset-----	20	6G
Verndale, acid substratum-----	5	6G
Hubbard-----	5	7
D33C: Urban land-----	70	---
Dorset-----	20	6G
Verndale, acid substratum-----	5	6G
Hubbard-----	5	7
D34B: Urban land-----	75	---
Hubbard-----	20	7
Mosford-----	5	7
D35A: Elkriver, occasionally flooded-----	70	1
Fordum, occasionally flooded-----	20	10
Udipsamments-----	5	
Winterfield, occasionally flooded	5	1
D37F: Dorset, bedrock substratum-----	70	6G
Rock Outcrop-----	20	
Hubbard, bedrock substratum-----	10	7

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
D40A:		
Kratka, thick solum---	80	2
Duelm-----	10	1
Foldahl, MAP >25-----	10	5
D41C:		
Urban land-----	75	---
Waukon-----	20	3
Braham-----	5	5
D43A:		
Gonvick, terrace-----	85	3
Braham-----	15	5
GP. Pits, gravel- Udipsamments		
L2B:		
Malardi-----	65	6G
Hawick-----	25	7
Rasset-----	5	6G
Eden Prairie-----	5	6G
L2C:		
Malardi-----	60	6G
Hawick-----	25	7
Tomall-----	10	3
Crowfork-----	5	7
L2D:		
Malardi-----	55	6G
Hawick-----	30	7
Tomall-----	10	3
Crowfork-----	5	7
L2E:		
Malardi-----	55	6G
Hawick-----	30	7
Tomall-----	15	3
L3A:		
Rasset-----	90	6G
Malardi-----	8	6G
Eden Prairie-----	2	6G

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L3B:		
Rasset-----	80	6G
Malardi-----	15	6G
Eden Prairie-----	5	6G
L3C:		
Rasset-----	75	6G
Malardi-----	10	6G
Tomall-----	10	3
Eden Prairie-----	5	6G
L4B:		
Crowfork-----	90	7
Eden Prairie-----	10	6G
L4C:		
Crowfork-----	90	7
Eden Prairie-----	10	6G
L4D:		
Crowfork-----	85	7
Eden Prairie-----	15	6G
L6A:		
Biscay-----	85	2
Biscay, depressional--	10	10
Mayer-----	5	2K
L7A:		
Biscay, depressional--	80	10
Biscay-----	15	2
Mayer-----	5	2K
L8A:		
Darfur-----	95	2
Dassel-----	5	10
L9A:		
Minnetonka-----	90	2
Depressional soil----	10	10
L10B:		
Kasota-----	80	6G
Eden Prairie-----	10	6G
Wet soil in swales----	10	2

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L11B:		
Grays-----	90	3
Kasota-----	5	6G
Crowfork-----	5	7
L12A:		
Muskego, frequently flooded-----	30	10
Blue Earth, frequently flooded-----	30	10
Houghton, frequently flooded-----	30	10
Oshawa, frequently flooded-----	10	10
L13A:		
Klossner, drained----	80	2H
Mineral soil, drained	15	2
Houghton, drained----	5	2H
L14A:		
Houghton, drained----	80	2H
Klossner, drained----	10	2H
Mineral soil, drained	10	2
L15A:		
Klossner, ponded-----	30	10
Okoboiji, ponded-----	30	10
Glencoe, ponded-----	30	10
Houghton, ponded-----	10	10
L16A:		
Muskego, ponded-----	30	10
Blue Earth, ponded----	30	10
Houghton, ponded-----	30	10
Klossner, ponded-----	10	10
L17B:		
Angus-----	50	3
Malardi-----	30	6G
Moon-----	10	5
Cordova-----	10	2

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L18A:		
Shields-----	85	2
Lerdal-----	10	4
Mazaska-----	5	2
L19B:		
Moon-----	85	5
Finchford-----	15	7
L20B:		
Fedji, silty substratum-----	85	5
Finchford-----	15	7
L21A:		
Canisteo-----	80	2K
Cordova-----	15	2
Glencoe-----	5	10
L22C2:		
Lester, eroded-----	70	3
Angus-----	15	3
Terril-----	12	3
Hamel-----	3	2
L22D2:		
Lester, eroded-----	80	3
Terril-----	10	3
Hamel-----	5	2
Ridgeton-----	5	3
L22E:		
Lester, morainic-----	75	3
Terril-----	15	3
Hamel-----	5	2
Ridgeton-----	5	3
L22F:		
Lester, morainic-----	75	3
Terril-----	10	3
Ridgeton-----	10	3
Hamel-----	5	2

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L23A:		
Cordova-----	85	2
Glencoe-----	10	10
Nessel-----	5	1
L24A:		
Glencoe, depressional	90	2
Cordova-----	10	2
L25A:		
Le Sueur-----	80	1
Cordova-----	15	2
Angus-----	5	3
L26A:		
Shorewood-----	85	4
Minnetonka-----	10	2
Good Thunder-----	5	4
L26B:		
Shorewood-----	90	4
Good Thunder-----	5	4
Minnetonka-----	5	2
L26C2:		
Shorewood, eroded----	95	4
Minnetonka-----	5	2
L27A:		
Suckercreek, frequently flooded---	85	10
Suckercreek, occasionally flooded	10	10
Hanlon, occasionally flooded-----	5	1
L28A:		
Suckercreek, occasionally flooded	80	10
Suckercreek, frequently flooded---	10	10
Hanlon, occasionally flooded-----	10	1
L29A:		
Hanlon, occasionally flooded-----	80	1
Suckercreek, occasionally flooded	10	10

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L29A: Suckercreek, frequently flooded---	10	10
L30A: Medo, surface drained	65	10
Medo, drained-----	20	2H
Mineral soil, drained	15	2
L31A: Medo, ponded-----	30	10
Dassel, ponded-----	30	10
Biscay, ponded-----	30	10
Houghton, ponded-----	5	10
Muskego, ponded-----	5	10
L32D: Hawick-----	75	7
Crowfork-----	15	7
Tomall-----	10	3
L32F: Hawick-----	75	7
Crowfork-----	15	7
Tomall-----	10	3
L35A: Lerdal-----	80	4
Mazaska-----	10	2
Cordova-----	5	2
Le Sueur-----	5	1
L36A: Hamel, overwash-----	50	1
Hamel-----	43	2
Terril-----	5	3
Glencoe-----	2	2
L37B: Angus, morainic-----	80	3
Angus, eroded-----	10	3
Le Sueur-----	5	1
Cordova-----	5	2



Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L38A:		
Rushriver, occasionally flooded	75	2K
Oshawa, frequently flooded-----	15	10
Minneiska, occasionally flooded	5	1K
Algansee, occasionally flooded-----	5	1
L39A:		
Minneiska, occasionally flooded	70	1K
Rushriver, occasionally flooded	15	2K
Oshawa, frequently flooded-----	10	10
Algansee, occasionally flooded-----	5	1
L40B:		
Angus-----	45	3
Kilkenny-----	40	3
Lerdal-----	10	4
Mazaska-----	5	2
L41C2:		
Lester, eroded-----	45	3
Kilkenny, eroded-----	40	3
Terril-----	10	3
Derrynane-----	5	2
L41D2:		
Lester, eroded-----	45	3
Kilkenny, eroded-----	35	3
Terril-----	10	3
Derrynane-----	5	2
Ridgeton-----	5	3
L41E:		
Lester-----	45	3
Kilkenny-----	40	3
Terril-----	5	3

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L41E:		
Derrynane-----	5	2
Ridgeton-----	5	3
L41F:		
Lester-----	45	3
Kilkenny-----	35	3
Ridgeton-----	10	3
Terril-----	5	3
Derrynane-----	5	2
L42B:		
Kingsley-----	70	5
Gotham-----	25	7
Grays-----	5	3
L42C:		
Kingsley-----	70	5
Gotham-----	25	7
Grays-----	5	3
L42D:		
Kingsley-----	70	5
Gotham-----	25	7
Grays-----	5	3
L42E:		
Kingsley-----	70	5
Gotham-----	25	7
Grays-----	5	3
L42F:		
Kingsley-----	70	5
Gotham-----	25	7
Grays-----	5	3
L43A:		
Brouillett, occasionally flooded	80	1K
Minneiska, occasionally flooded	10	1K
Rushriver, occasionally flooded	10	2K

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L44A:		
Nessel-----	85	1
Cordova-----	10	2
Angus-----	5	3
L45A:		
Dundas-----	65	1
Cordova-----	25	2
Nessel-----	5	1
Glencoe-----	5	10
L46A:		
Tomall-----	80	3
Rasset-----	10	6G
Malardi-----	10	6G
L47A:		
Eden Prairie-----	85	6G
Malardi-----	10	6G
Rasset-----	5	6G
L47B:		
Eden Prairie-----	80	6G
Malardi-----	10	6G
Rasset-----	10	6G
L47C:		
Eden Prairie-----	70	6G
Malardi-----	10	6G
Rasset-----	10	6G
Hawick-----	10	7
L49A:		
Klossner, surface drained-----	65	10
Klossner, drained----	20	2H
Mineral soil, drained	15	2
L50A:		
Houghton, surface drained-----	40	10
Muskego, surface drained-----	40	10
Klossner, drained----	10	2H
Mineral soil, drained	10	2

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L52C:		
Urban land-----	75	---
Lester-----	20	3
Kingsley-----	5	5
L52E:		
Urban land-----	75	---
Lester-----	20	3
Kingsley-----	5	5
L53B:		
Urban land-----	70	---
Moon-----	20	5
Lester-----	10	3
L54A:		
Urban land-----	70	---
Dundas-----	20	1
Nessel-----	10	1
L55B:		
Urban land-----	70	---
Malardi-----	20	6G
Rasset-----	5	6G
Eden Prairie-----	5	6G
L55C:		
Urban land-----	70	---
Malardi-----	20	6G
Hawick-----	5	7
Crowfork-----	5	7
L56A:		
Muskego, frequently flooded-----	45	10
Klossner, frequently flooded-----	45	10
Suckercreek, frequently flooded---	10	10
L58B:		
Koronis-----	60	3
Kingsley-----	25	5
Forestcity-----	10	2
Gotham-----	5	7

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L58C2:		
Koronis, eroded-----	55	3
Kingsley, eroded-----	25	5
Forestcity-----	15	2
Gotham-----	5	7
L58D2:		
Koronis, eroded-----	55	3
Kingsley, eroded-----	25	5
Forestcity-----	15	2
Gotham-----	5	7
L58E:		
Koronis-----	55	3
Kingsley-----	25	5
Forestcity-----	15	2
Gotham-----	5	7
L59A:		
Forestcity-----	70	2
Lundlake, depressional	25	2
Marcellon-----	5	1
L60B:		
Angus-----	65	3
Moon-----	30	5
Hamel-----	5	2
L61C2:		
Lester, eroded-----	60	3
Metea, eroded-----	25	5
Terril-----	12	3
Hamel-----	3	2
L61D2:		
Lester, eroded-----	55	3
Metea, eroded-----	25	5
Terril-----	12	3
Ridgeton-----	5	3
Hamel-----	3	2

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L61E:		
Lester-----	55	3
Metea-----	25	5
Terril-----	10	3
Hamel-----	5	2
Ridgeton-----	5	3
L62B:		
Koronis-----	55	3
Kingsley-----	20	5
Malardi-----	20	6G
Forestcity-----	5	2
L62C2:		
Koronis, eroded-----	40	3
Kingsley, eroded-----	25	5
Malardi, eroded-----	25	6G
Forestcity-----	10	2
L62D2:		
Koronis, eroded-----	40	3
Kingsley, eroded-----	25	5
Malardi, eroded-----	25	6G
Forestcity-----	10	2
L62E:		
Koronis-----	40	3
Kingsley-----	25	5
Malardi-----	25	6G
Forestcity-----	10	2
L64A:		
Tadkee-----	50	10
Tadkee, depressional--	36	10
Better drained soil---	8	1
Granby-----	4	10
Less sandy soil-----	2	10
L70C2:		
Lester, eroded-----	60	3
Malardi, eroded-----	25	6G

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L70C2:		
Terril-----	12	3
Hamel-----	3	2
L70D2:		
Lester, eroded-----	55	3
Malardi, eroded-----	25	6G
Terril-----	12	3
Ridgeton-----	5	3
Hamel-----	3	2
L70E:		
Lester-----	55	3
Malardi-----	25	6G
Terril-----	10	3
Hamel-----	5	2
Ridgeton-----	5	3
L71C:		
Metea-----	80	5
Lester-----	15	3
Moon-----	5	5
L72A:		
Lundlake, depressiona	90	2
Forestcity-----	10	2
L110E:		
Lester-----	50	3
Ridgeton-----	30	3
Cokato-----	10	3
Belview-----	6	8
Hamel-----	2	2
Terril-----	2	3
L110F:		
Lester-----	55	3
Ridgeton-----	30	3
Cokato-----	8	3
Belview-----	4	8
Terril-----	2	3
Hamel-----	1	2

Table 11.--Windbreak Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Windbreak suitability group
L131A:		
Litchfield-----	85	1
Darfur-----	10	2
Crowfork-----	5	7
L132A:		
Hamel-----	50	2
Glencoe, depressiona	30	2
Hamel, overwash-----	15	1
Terril-----	5	3
M-W.		
Water, miscellaneous		
U1A.		
Urban land-Udorthents, wet substratum		
U2A.		
Udorthents, wet substratum		
U3B.		
Udorthents (cut and fill land)		
U4A.		
Urban land- Udipsamments (cut and fill land)		
U5A.		
Urban land-Udorthents, wet substratum		
U6B.		
Urban land-Udorthents (cut and fill land)		
W.		
Water		



Table 12a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D1B:							
Anoka, terrace-----	55	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy Slope	0.96 0.12
Zimmerman, terrace--	40	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.50
Kost-----	5	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy Slope	0.96 0.50
D1C:							
Anoka, terrace-----	45	Somewhat limited Too sandy Slope	0.96 0.04	Somewhat limited Too sandy Slope	0.96 0.04	Very limited Slope Too sandy	1.00 0.96
Zimmerman, terrace--	45	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Slope Too sandy	1.00 1.00
Kost-----	10	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Very limited Slope Too sandy	1.00 0.96
D2A:							
Elkriver, rarely flooded-----	85	Very limited Flooding	1.00	Not limited		Not limited	
Mosford, rarely flooded-----	10	Very limited Flooding	1.00	Not limited		Not limited	
Elkriver, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
D3A:							
Elkriver, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D3A: Fordum, frequently flooded-----	15	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding Gravel content	1.00 1.00 0.05
Winterfield, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Too sandy	1.00 0.98 0.96	Somewhat limited Too sandy Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Too sandy Flooding	0.98 0.96 0.60
D4A: Dorset-----	90	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	8	Not limited		Not limited		Not limited	
Almora-----	2	Not limited		Not limited		Not limited	
D4B: Dorset-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
Verndale, acid substratum-----	10	Not limited		Not limited		Somewhat limited Slope	0.12
Almora-----	5	Not limited		Not limited		Not limited	
D4C: Dorset-----	75	Not limited		Not limited		Very limited Slope	1.00
Verndale, acid substratum-----	15	Not limited		Not limited		Somewhat limited Slope	0.12
Almora-----	10	Not limited		Not limited		Not limited	
D5B: Dorset-----	65	Not limited		Not limited		Somewhat limited Slope	0.12
Two Inlets-----	25	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy Slope Gravel content	0.87 0.50 0.22
Verndale, acid substratum-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
Southhaven-----	5	Not limited		Not limited		Not limited	

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5C:							
Dorset-----	55	Not limited		Not limited		Very limited Slope	1.00
Two Inlets-----	30	Somewhat limited Too sandy Slope	0.87 0.04	Somewhat limited Too sandy Slope	0.87 0.04	Very limited Slope Too sandy Gravel content	1.00 0.87 0.22
Southhaven-----	10	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Very limited Slope	1.00
D5D:							
Dorset-----	50	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Two Inlets-----	35	Very limited Slope Too sandy	1.00 0.87	Very limited Slope Too sandy	1.00 0.87	Very limited Slope Too sandy Gravel content	1.00 0.87 0.22
Southhaven-----	10	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Very limited Slope	1.00
D6A:							
Verndale, acid substratum-----	90	Not limited		Not limited		Not limited	
Dorset-----	7	Not limited		Not limited		Not limited	
Hubbard-----	3	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
D6B:							
Verndale, acid substratum-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
Dorset-----	10	Not limited		Not limited		Somewhat limited Slope	0.12
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
D6C:							
Verndale, acid substratum-----	80	Not limited		Not limited		Very limited Slope	1.00
Dorset-----	15	Not limited		Not limited		Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D6C: Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Very limited Slope Too sandy	1.00 0.81
D7A: Hubbard-----	95	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
Mosford-----	5	Not limited		Not limited		Not limited	
D7B: Hubbard-----	90	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
Mosford-----	10	Not limited		Not limited		Not limited	
D7C: Hubbard-----	80	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Very limited Slope Too sandy	1.00 0.81
Sandberg-----	10	Somewhat limited Too sandy Slope	0.77 0.16	Somewhat limited Too sandy Slope	0.77 0.16	Very limited Slope Gravel content Too sandy	1.00 0.78 0.77
Mosford-----	10	Not limited		Not limited		Not limited	
D8B: Sandberg-----	95	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy	0.77	Somewhat limited Gravel content Too sandy Slope	0.78 0.77 0.50
Arvilla, MAP >25----	5	Not limited		Not limited		Not limited	
D8C: Sandberg-----	80	Somewhat limited Too sandy Slope	0.77 0.04	Somewhat limited Too sandy Slope	0.77 0.04	Very limited Slope Gravel content Too sandy	1.00 0.78 0.77
Corliss-----	15	Somewhat limited Too sandy Slope	0.87 0.04	Somewhat limited Too sandy Slope	0.87 0.04	Very limited Slope Too sandy	1.00 0.87
Southhaven-----	5	Not limited		Not limited		Not limited	
D8D: Sandberg-----	80	Somewhat limited Slope Too sandy	0.96 0.77	Somewhat limited Slope Too sandy	0.96 0.77	Very limited Slope Gravel content Too sandy	1.00 0.78 0.77
Corliss-----	10	Very limited Slope Too sandy	1.00 0.87	Very limited Slope Too sandy	1.00 0.87	Very limited Slope Too sandy	1.00 0.87
Southhaven-----	10	Not limited		Not limited		Not limited	

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D8E:							
Sandberg-----	80	Very limited Slope Too sandy	1.00  0.77	Very limited Slope Too sandy	1.00  0.77	Very limited Slope Gravel content Too sandy	1.00  0.78 0.77
Corliss-----	10	Very limited Slope Too sandy	1.00  0.87	Very limited Slope Too sandy	1.00  0.87	Very limited Slope Too sandy	1.00  0.87
Southhaven-----	10	Not limited		Not limited		Somewhat limited Slope	0.12
D10A:							
Forada-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
D11A:							
Lindaas-----	80	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
Lindaas, sandy substratum-----	10	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
Depressional soil---	10	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96
D12B:							
Bygland, MAP >25----	70	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability Slope	0.43  0.12
Bygland, sandy substratum-----	15	Somewhat limited Restricted permeability Depth to saturated zone	0.43  0.03	Somewhat limited Restricted permeability Depth to saturated zone	0.43  0.02	Somewhat limited Restricted permeability Slope Depth to saturated zone	0.43  0.12 0.03

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D12B: Lindaas-----	10	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
Depressional soil---	5	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96
D12C2: Bygland, MAP >25----	70	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Very limited Slope Restricted permeability	1.00 0.43
Bygland, sandy substratum-----	15	Somewhat limited Restricted permeability Depth to saturated zone	0.43  0.03	Somewhat limited Restricted permeability Depth to saturated zone	0.43  0.02	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.43 0.03
Lindaas-----	10	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
Depressional soil---	5	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96
D13A: Langola, terrace----	85	Somewhat limited Too sandy Restricted permeability Depth to saturated zone	0.96 0.96 0.39	Somewhat limited Too sandy Restricted permeability Depth to saturated zone	0.96 0.96 0.19	Somewhat limited Too sandy Restricted permeability Depth to saturated zone	0.96 0.96 0.39
Duelm-----	10	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
D13B: Langola, terrace----	85	Somewhat limited Too sandy Restricted permeability	0.96 0.96	Somewhat limited Too sandy Restricted permeability	0.96 0.96	Somewhat limited Too sandy Restricted permeability Slope	0.96 0.96 0.12

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D13B:							
Hubbard-----	10	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
Duelm-----	5	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
D15A:							
Seelyeville, drained	65	Not rated		Not rated		Not rated	
Markey, drained----	25	Not rated		Not rated		Not rated	
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D16A:							
Seelyeville, ponded	45	Not rated		Not rated		Not rated	
Markey, ponded-----	45	Not rated		Not rated		Not rated	
Mineral soil, ponded	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D17A:							
Duelm-----	90	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
Isan-----	8	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Hubbard-----	2	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
D18B:							
Braham, terrace----	85	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
Duelm-----	15	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
D19A:							
Fordum, frequently flooded-----	65	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding Gravel content	1.00 1.00 0.05

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D19A: Winterfield, frequently flooded	25	Very limited Flooding Depth to saturated zone Too sandy	1.00 0.98 0.96	Somewhat limited Too sandy Depth to saturated zone Flooding	0.96 0.75 0.40	Very limited Flooding Depth to saturated zone Too sandy	1.00 0.98 0.96
Fordum, occasionally flooded-----	10	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding Gravel content	1.00 0.60 0.05
D20A: Isan-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Isan, depressiona--	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Duelm-----	5	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
D21A: Isan, depressiona--	85	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Isan-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D23A: Southhaven-----	90	Not limited		Not limited		Not limited	
Dorset-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
Mosford-----	5	Not limited		Not limited		Not limited	
D24A: Sedgeville, occasionally flooded-----	85	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding Gravel content	1.00 0.60 0.06
Elkriver, occasionally flooded-----	15	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60



Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D25A: Soderville, terrace	90	Somewhat limited Depth to saturated zone Too sandy	0.39 0.37	Somewhat limited Too sandy Depth to saturated zone	0.37 0.19	Somewhat limited Depth to saturated zone Too sandy	0.39 0.37
Forada-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D26A: Foldahl, MAP >25----	90	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
Isan-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D27A: Dorset, loamy substratum-----	80	Not limited		Not limited		Not limited	
Dorset-----	15	Not limited		Not limited		Not limited	
Southhaven-----	5	Not limited		Not limited		Not limited	
D28B: Urban land-----	75	Not rated		Not rated		Not rated	
Bygland, MAP >25----	20	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability Slope	0.43 0.12
Bygland, sandy substratum-----	5	Somewhat limited Restricted permeability Depth to saturated zone	0.43 0.03	Somewhat limited Restricted permeability Depth to saturated zone	0.43 0.02	Somewhat limited Restricted permeability Slope Depth to saturated zone	0.43 0.12 0.03
D29B: Urban land-----	70	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
Mosford-----	5	Not limited		Not limited		Not limited	

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D30A: Seelyeville, surface drained-----	45	Not rated		Not rated		Not rated	
Markey, surface drained-----	45	Not rated		Not rated		Not rated	
Mineral soil, surface drained----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D31A: Urban land-----	70	Not rated		Not rated		Not rated	
Duelm-----	20	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
Isan-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D33B: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Not limited		Not limited		Somewhat limited Slope	0.12
Verndale, acid substratum-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Slope Too sandy	0.88 0.81
D33C: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Verndale, acid substratum-----	5	Not limited		Not limited		Very limited Slope	1.00
Hubbard-----	5	Somewhat limited Too sandy Slope	0.81 0.63	Somewhat limited Too sandy Slope	0.81 0.63	Very limited Slope Too sandy	1.00 0.81
D34B: Urban land-----	75	Not rated		Not rated		Not rated	
Hubbard-----	20	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D34B: Mosford-----	5	Not limited		Not limited		Not limited	
D35A: Elkriver, occasionally flooded-----	70	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
Fordum, occasionally flooded-----	20	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding Gravel content	1.00 0.60 0.05
Udipsammets-----	5	Not rated		Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Too sandy	1.00 0.98 0.96	Somewhat limited Too sandy Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Too sandy Flooding	0.98 0.96 0.60
D37F: Dorset, bedrock substratum-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Very limited Slope Too sandy	1.00 0.81	Very limited Slope Too sandy	1.00 0.81	Very limited Slope Too sandy	1.00 0.81
D40A: Kratka, thick solum	80	Very limited Depth to saturated zone Too sandy	1.00 0.96	Very limited Depth to saturated zone Too sandy	1.00 0.96	Very limited Depth to saturated zone Too sandy	1.00 0.96
Duelm-----	10	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87
Foldahl, MAP >25----	10	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy Slope	0.87 0.03
D41C: Urban land-----	75	Not rated		Not rated		Not rated	
Waukon-----	20	Not limited		Not limited		Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D41C: Braham-----	5	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
D43A: Gonvick, terrace----	85	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Slope	0.98 0.03
Braham-----	15	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
GP: Pits, gravel-----	80	Not rated		Not rated		Not rated	
Udipsammments-----	20	Not rated		Not rated		Not rated	
L2B: Malardi-----	65	Not limited		Not limited		Somewhat limited Slope	0.12
Hawick-----	25	Not limited		Not limited		Somewhat limited Slope Gravel content	0.50 0.04
Rasset-----	5	Not limited		Not limited		Somewhat limited Gravel content	0.04
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L2C: Malardi-----	60	Not limited		Not limited		Very limited Slope	1.00
Hawick-----	25	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope Gravel content	1.00 0.04
Tomall-----	10	Not limited		Not limited		Not limited	
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Very limited Slope Too sandy	1.00 0.42
L2D: Malardi-----	55	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Hawick-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.04
Tomall-----	10	Not limited		Not limited		Not limited	
Crowfork-----	5	Somewhat limited Slope Too sandy	0.84 0.42	Somewhat limited Slope Too sandy	0.84 0.42	Very limited Slope Too sandy	1.00 0.42

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L2E:							
Malardi-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hawick-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.04
Tomall-----	15	Not limited		Not limited		Not limited	
L3A:							
Rasset-----	90	Not limited		Not limited		Somewhat limited Gravel content	0.04
Malardi-----	8	Not limited		Not limited		Not limited	
Eden Prairie-----	2	Not limited		Not limited		Not limited	
L3B:							
Rasset-----	80	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.04
Malardi-----	15	Not limited		Not limited		Somewhat limited Slope	0.12
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L3C:							
Rasset-----	75	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.04
Malardi-----	10	Not limited		Not limited		Very limited Slope	1.00
Tomall-----	10	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Very limited Slope	1.00
L4B:							
Crowfork-----	90	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy Slope	0.42 0.12
Eden Prairie-----	10	Not limited		Not limited		Not limited	
L4C:							
Crowfork-----	90	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Very limited Slope Too sandy	1.00 0.42
Eden Prairie-----	10	Not limited		Not limited		Not limited	
L4D:							
Crowfork-----	85	Very limited Slope Too sandy	1.00 0.42	Very limited Slope Too sandy	1.00 0.42	Very limited Slope Too sandy	1.00 0.42

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L4D: Eden Prairie-----	15	Not limited		Not limited		Not limited	
L6A: Biscay-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Biscay, depressional	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Mayer-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L7A: Biscay, depressional	80	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Biscay-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Mayer-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L8A: Darfur-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Dassel-----	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L9A: Minnetonka-----	90	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Very limited Depth to saturated zone Restricted permeability	1.00 0.96
Depressional soil---	10	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.94	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.94	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.94
L10B: Kasota-----	80	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability	0.50 0.15

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L10B: Eden Prairie-----	10	Not limited		Not limited		Somewhat limited Slope	0.12
Wet soil in swales--	10	Very limited Depth to saturated zone Restricted permeability	1.00  0.94	Very limited Depth to saturated zone Restricted permeability	1.00  0.94	Very limited Depth to saturated zone Restricted permeability	1.00  0.94
L11B: Grays-----	90	Not limited		Not limited		Somewhat limited Slope	0.88
Kasota-----	5	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability	0.50 0.15
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Slope Too sandy	0.88 0.42
L12A: Muskego, frequently flooded-----	30	Not rated		Not rated		Not rated	
Blue Earth, frequently flooded	30	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	1.00  1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00
Houghton, frequently flooded-----	30	Not rated		Not rated		Not rated	
Oshawa, frequently flooded-----	10	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00  1.00 1.00 0.15	Very limited Ponding Depth to saturated zone Flooding Restricted permeability	1.00  1.00 0.40 0.15	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00  1.00 1.00 0.15
L13A: Klossner, drained---	80	Not rated		Not rated		Not rated	
Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
Houghton, drained---	5	Not rated		Not rated		Not rated	
L14A: Houghton, drained---	80	Not rated		Not rated		Not rated	
Klossner, drained---	10	Not rated		Not rated		Not rated	

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L14A: Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
L15A: Klossner, ponded----	30	Not rated		Not rated		Not rated	
Okoboji, ponded----	30	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.15	Very limited Ponding Depth to saturated zone Restricted permeability	1.00  1.00 0.15	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.15
Glencoe, ponded----	30	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
Houghton, ponded----	10	Not rated		Not rated		Not rated	
L16A: Muskego, ponded----	30	Not rated		Not rated		Not rated	
Blue Earth, ponded--	30	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
Houghton, ponded----	30	Not rated		Not rated		Not rated	
Klossner, ponded----	10	Not rated		Not rated		Not rated	
L17B: Angus-----	50	Not limited		Not limited		Somewhat limited Slope	0.50
Malardi-----	30	Not limited		Not limited		Somewhat limited Slope	0.88
Moon-----	10	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
Cordova-----	10	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
L18A: Shields-----	85	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96



Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L18A: Lerdal-----	10	Somewhat limited Restricted permeability Depth to saturated zone	0.94  0.90	Somewhat limited Restricted permeability Depth to saturated zone	0.94  0.60	Somewhat limited Restricted permeability Depth to saturated zone	0.94  0.90
Mazaska-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
L19B: Moon-----	85	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
Finchford-----	15	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Slope Too sandy Gravel content	0.88 0.81 0.22
L20B: Fedji, silty substratum-----	85	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy Slope	0.96 0.72
Finchford-----	15	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Slope Too sandy Gravel content	0.88 0.81 0.22
L21A: Canisteo-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Cordova-----	15	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
Glencoe-----	5	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
L22C2: Lester, eroded-----	70	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Angus-----	15	Not limited		Not limited		Somewhat limited Slope	0.50
Terril-----	12	Not limited		Not limited		Somewhat limited Slope	0.12

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L22C2: Hamel-----	3	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
L22D2: Lester, eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Somewhat limited Slope	0.50
Hamel-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
L22E: Lester, morainic----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	15	Not limited		Not limited		Somewhat limited Slope	0.50
Hamel-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L22F: Lester, morainic----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Somewhat limited Slope	0.50
Ridgeton-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hamel-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
L23A: Cordova-----	85	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L23A: Glencoe-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Nessel-----	5	Not limited		Not limited		Somewhat limited Slope	0.03
L24A: Glencoe, depressional-----	90	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Cordova-----	10	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21
L25A: Le Sueur-----	80	Very limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone Slope	0.99 0.03
Cordova-----	15	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21
Angus-----	5	Not limited		Not limited		Somewhat limited Slope	0.50
L26A: Shorewood-----	85	Somewhat limited Depth to saturated zone Restricted permeability	0.98 0.60	Somewhat limited Depth to saturated zone Restricted permeability	0.75 0.60	Somewhat limited Depth to saturated zone Restricted permeability	0.98 0.60
Minnetonka-----	10	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Very limited Depth to saturated zone Restricted permeability	1.00 0.96
Good Thunder-----	5	Somewhat limited Restricted permeability Depth to saturated zone	0.43 0.01	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability Slope Depth to saturated zone	0.43 0.03 0.01

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L26B: Shorewood-----	90	Somewhat limited Depth to saturated zone Restricted permeability	0.98  0.60	Somewhat limited Depth to saturated zone Restricted permeability	0.75  0.60	Somewhat limited Depth to saturated zone Restricted permeability Slope	0.98  0.60  0.50
Good Thunder-----	5	Somewhat limited Restricted permeability Depth to saturated zone	0.43  0.01	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability Slope Depth to saturated zone	0.43  0.03 0.01
Minnetonka-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
L26C2: Shorewood, eroded---	95	Somewhat limited Depth to saturated zone Restricted permeability Slope	0.98  0.60  0.04	Somewhat limited Depth to saturated zone Restricted permeability Slope	0.75  0.60  0.04	Very limited Slope Depth to saturated zone Restricted permeability	1.00 0.98  0.60
Minnetonka-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
L27A: Suckercreek, frequently flooded	85	Very limited Depth to saturated zone Flooding	1.00  1.00	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Depth to saturated zone Flooding	1.00  1.00
Suckercreek, occasionally flooded-----	10	Very limited Depth to saturated zone Flooding	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00  0.60
Hanlon, occasionally flooded-----	5	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
L28A: Suckercreek, occasionally flooded-----	80	Very limited Depth to saturated zone Flooding	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00  0.60

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L28A: Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
Hanlon, occasionally flooded-----	10	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
L29A: Hanlon, occasionally flooded-----	80	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Suckercreek, occasionally flooded-----	10	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
L30A: Medo, surface drained-----	65	Not rated		Not rated		Not rated	
Medo, drained-----	20	Not rated		Not rated		Not rated	
Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L31A: Medo, ponded-----	30	Not rated		Not rated		Not rated	
Dassel, ponded-----	30	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Biscay, ponded-----	30	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Houghton, ponded----	5	Not rated		Not rated		Not rated	
Muskego, ponded-----	5	Not rated		Not rated		Not rated	

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L32D:							
Hawick-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too sandy	0.50	Too sandy	0.50	Gravel content Too sandy	0.78 0.50
Crowfork-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too sandy	0.42	Too sandy	0.42	Too sandy	0.42
Tomall-----	10	Not limited		Not limited		Not limited	
L32F:							
Hawick-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too sandy	0.50	Too sandy	0.50	Gravel content Too sandy	0.78 0.50
Crowfork-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too sandy	0.42	Too sandy	0.42	Too sandy	0.42
Tomall-----	10	Not limited		Not limited		Not limited	
L35A:							
Lerdal-----	80	Somewhat limited Restricted permeability	0.94	Somewhat limited Restricted permeability	0.94	Somewhat limited Restricted permeability	0.94
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Depth to saturated zone	0.90
Mazaska-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
Cordova-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Le Sueur-----	5	Very limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone Slope	0.99 0.12
L36A:							
Hamel, overwash----	50	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Hamel-----	43	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L36A: Terril-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
Glencoe-----	2	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
L37B: Angus, morainic----	80	Not limited		Not limited		Somewhat limited Slope	0.50
Angus, eroded-----	10	Not limited		Not limited		Somewhat limited Slope	0.50
Le Sueur-----	5	Very limited		Somewhat limited		Somewhat limited	
		Depth to	0.99	Depth to	0.78	Depth to	0.99
		saturated zone		saturated zone		saturated zone	
						Slope	0.03
Cordova-----	5	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Restricted	0.21	Restricted	0.21	Restricted	0.21
		permeability		permeability		permeability	
L38A: Rushriver, occasionally flooded-----	75	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Flooding	1.00			Flooding	0.60
						Gravel content	0.50
Oshawa, frequently flooded-----	15	Very limited		Very limited		Very limited	
		Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone		Depth to	1.00	saturated zone	
		Flooding	1.00	saturated zone		Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
		Restricted	0.15	Restricted	0.15	Restricted	0.15
		permeability		permeability		permeability	
Minneiska, occasionally flooded-----	5	Very limited		Not limited		Somewhat limited Flooding	0.60
		Flooding	1.00				
Algansee, occasionally flooded-----	5	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.87	Depth to	0.98
		Depth to	0.98	Depth to	0.75	saturated zone	
		saturated zone		saturated zone		Too sandy	0.87
		Too sandy	0.87			Flooding	0.60

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L39A: Minneiska, occasionally flooded-----	70	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Rushriver, occasionally flooded-----	15	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding Gravel content	1.00 0.60 0.50
Oshawa, frequently flooded-----	10	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.15	Very limited Ponding Depth to saturated zone Flooding Restricted permeability	1.00 1.00 0.40 0.15	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.15
Algansee, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Too sandy	1.00 0.98 0.87	Somewhat limited Too sandy Depth to saturated zone	0.87 0.75	Somewhat limited Depth to saturated zone Too sandy Flooding	0.98 0.87 0.60
L40B: Angus-----	45	Not limited		Not limited		Somewhat limited Slope	0.50
Kilkenny-----	40	Somewhat limited Depth to saturated zone Restricted permeability	0.88 0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.56 0.21	Somewhat limited Depth to saturated zone Restricted permeability Slope	0.88 0.21 0.12
Lerdal-----	10	Somewhat limited Restricted permeability Depth to saturated zone	0.94 0.90	Somewhat limited Restricted permeability Depth to saturated zone	0.94 0.60	Somewhat limited Restricted permeability Depth to saturated zone Slope	0.94 0.90 0.03
Mazaska-----	5	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Very limited Depth to saturated zone Restricted permeability	1.00 0.96
L41C2: Lester, eroded-----	45	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00



Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41C2: Kilkenny, eroded----	40	Somewhat limited Restricted permeability Slope	0.21 0.04	Somewhat limited Restricted permeability Slope	0.21 0.04	Very limited Slope Restricted permeability	1.00 0.21
Terril-----	10	Not limited		Not limited		Somewhat limited Slope	0.12
Derrynane-----	5	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43
L41D2: Lester, eroded-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Kilkenny, eroded----	35	Very limited Slope Restricted permeability	1.00 0.21	Very limited Slope Restricted permeability	1.00 0.21	Very limited Slope Restricted permeability	1.00 0.21
Terril-----	10	Not limited		Not limited		Somewhat limited Slope	0.12
Derrynane-----	5	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
L41E: Lester-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Kilkenny-----	40	Very limited Slope Restricted permeability	1.00 0.21	Very limited Slope Restricted permeability	1.00 0.21	Very limited Slope Restricted permeability	1.00 0.21
Terril-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
Derrynane-----	5	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L41F: Lester-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41F:							
Kilkenny-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Ridgeton-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
Derrynane-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
L42B:							
Kingsley-----	70	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability Gravel content	0.50 0.15 0.04
Gotham-----	25	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy Slope	0.57 0.50
Grays-----	5	Not limited		Not limited		Not limited	
L42C:							
Kingsley-----	70	Somewhat limited Restricted permeability Slope	0.15 0.04	Somewhat limited Restricted permeability Slope	0.15 0.04	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Gotham-----	25	Somewhat limited Too sandy Slope	0.57 0.04	Somewhat limited Too sandy Slope	0.57 0.04	Very limited Slope Too sandy	1.00 0.57
Grays-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L42D:							
Kingsley-----	70	Somewhat limited Slope Restricted permeability	0.96 0.15	Somewhat limited Slope Restricted permeability	0.96 0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Gotham-----	25	Somewhat limited Slope Too sandy	0.96 0.57	Somewhat limited Slope Too sandy	0.96 0.57	Very limited Slope Too sandy	1.00 0.57
Grays-----	5	Not limited		Not limited		Somewhat limited Slope	0.12

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42E: Kingsley-----	70	Very limited Slope Restricted permeability	1.00  0.15	Very limited Slope Restricted permeability	1.00  0.15	Very limited Slope Restricted permeability Gravel content	1.00  0.15  0.04
Gotham-----	25	Very limited Slope Too sandy	1.00  0.57	Very limited Slope Too sandy	1.00  0.57	Very limited Slope Too sandy	1.00  0.57
Grays-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L42F: Kingsley-----	70	Very limited Slope Restricted permeability	1.00  0.15	Very limited Slope Restricted permeability	1.00  0.15	Very limited Slope Restricted permeability Gravel content	1.00  0.15  0.04
Gotham-----	25	Very limited Slope Too sandy	1.00  0.57	Very limited Slope Too sandy	1.00  0.57	Very limited Slope Too sandy	1.00  0.57
Grays-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L43A: Brouillett, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00  0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98  0.60
Minneiska, occasionally flooded-----	10	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Rushriver, occasionally flooded-----	10	Very limited Depth to saturated zone Flooding	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding Gravel content	1.00  0.60  0.50
L44A: Nessel-----	85	Not limited		Not limited		Somewhat limited Slope	0.03
Cordova-----	10	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
Angus-----	5	Not limited		Not limited		Somewhat limited Slope	0.50

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L45A:							
Dundas-----	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to	0.98	Depth to	0.75	Depth to	0.98
		saturated zone		saturated zone		saturated zone	
		Restricted	0.21	Restricted	0.21	Restricted	0.21
		permeability		permeability		permeability	
Cordova-----	25	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Restricted	0.21	Restricted	0.21	Restricted	0.21
		permeability		permeability		permeability	
Nessel-----	5	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Glencoe-----	5	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
L46A:							
Tomall-----	80	Not limited		Not limited		Not limited	
Rasset-----	10	Not limited		Not limited		Somewhat limited	
						Gravel content	0.04
Malardi-----	10	Not limited		Not limited		Somewhat limited	
						Slope	0.12
L47A:							
Eden Prairie-----	85	Not limited		Not limited		Not limited	
Malardi-----	10	Not limited		Not limited		Not limited	
Rasset-----	5	Not limited		Not limited		Somewhat limited	
						Gravel content	0.04
L47B:							
Eden Prairie-----	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Malardi-----	10	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Rasset-----	10	Not limited		Not limited		Somewhat limited	
						Gravel content	0.04
L47C:							
Eden Prairie-----	70	Not limited		Not limited		Very limited	
						Slope	1.00
Malardi-----	10	Not limited		Not limited		Very limited	
						Slope	1.00
Rasset-----	10	Not limited		Not limited		Somewhat limited	
						Gravel content	0.04
Hawick-----	10	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
						Gravel content	0.04

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L49A:							
Klossner, surface drained-----	65	Not rated		Not rated		Not rated	
Klossner, drained---	20	Not rated		Not rated		Not rated	
Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L50A:							
Houghton, surface drained-----	40	Not rated		Not rated		Not rated	
Muskego, surface drained-----	40	Not rated		Not rated		Not rated	
Klossner, drained---	10	Not rated		Not rated		Not rated	
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L52C:							
Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Not limited		Not limited		Very limited Slope	1.00
Kingsley-----	5	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
L52E:							
Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Kingsley-----	5	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
L53B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Moon-----	20	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
Lester-----	10	Not limited		Not limited		Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L54A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dundas-----	20	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Nessel-----	10	Not limited		Not limited		Somewhat limited Slope	0.03
L55B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Not limited		Not limited		Somewhat limited Slope	0.50
Rasset-----	5	Not limited		Not limited		Somewhat limited Gravel content	0.04
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Slope	0.50
L55C:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Hawick-----	5	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Gravel content	1.00 0.04
Crowfork-----	5	Somewhat limited Too sandy Slope	0.42 0.04	Somewhat limited Too sandy Slope	0.42 0.04	Very limited Slope Too sandy	1.00 0.42
L56A:							
Muskego, frequently flooded-----	45	Not rated		Not rated		Not rated	
Klossner, frequently flooded-----	45	Not rated		Not rated		Not rated	
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
L58B:							
Koronis-----	60	Not limited		Not limited		Somewhat limited Slope Gravel content	0.28 0.04
Kingsley-----	25	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope Restricted permeability Gravel content	0.28 0.15 0.04

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58B: Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Slope Too sandy	0.88 0.57
L58C2: Koronis, eroded----	55	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Gravel content	1.00 0.04
Kingsley, eroded----	25	Somewhat limited Restricted permeability Slope	0.15 0.04	Somewhat limited Restricted permeability Slope	0.15 0.04	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Forestcity-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Too sandy Slope	0.57 0.16	Somewhat limited Too sandy Slope	0.57 0.16	Very limited Slope Too sandy	1.00 0.57
L58D2: Koronis, eroded----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.04
Kingsley, eroded----	25	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Forestcity-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Very limited Slope Too sandy	1.00 0.57	Very limited Slope Too sandy	1.00 0.57	Very limited Slope Too sandy	1.00 0.57
L58E: Koronis-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.04
Kingsley-----	25	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Forestcity-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58E: Gotham-----	5	Very limited Slope Too sandy	1.00  0.57	Very limited Slope Too sandy	1.00  0.57	Very limited Slope Too sandy	1.00  0.57
L59A: Forestcity-----	70	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Lundlake, depressional-----	25	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
Marcellon-----	5	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Gravel content Slope	0.98  0.04 0.03
L60B: Angus-----	65	Not limited		Not limited		Somewhat limited Slope	0.50
Moon-----	30	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
Hamel-----	5	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
L61C2: Lester, eroded-----	60	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Metea, eroded-----	25	Somewhat limited Too sandy Slope	0.37 0.04	Somewhat limited Too sandy Slope	0.37 0.04	Very limited Slope Too sandy	1.00 0.37
Terril-----	12	Not limited		Not limited		Somewhat limited Slope	0.12
Hamel-----	3	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21	Very limited Depth to saturated zone Restricted permeability	1.00  0.21
L61D2: Lester, eroded-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Metea, eroded-----	25	Very limited Slope Too sandy	1.00 0.37	Very limited Slope Too sandy	1.00 0.37	Very limited Slope Too sandy	1.00 0.37



Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61D2: Terril-----	12	Not limited		Not limited		Somewhat limited Slope	0.50
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Hamel-----	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
L61E: Lester-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Metee-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Too sandy	0.37	Too sandy	0.37	Too sandy	0.37
Terril-----	10	Not limited		Not limited		Somewhat limited Slope	0.50
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L62B: Koronis-----	55	Not limited		Not limited		Somewhat limited Slope	0.28
						Gravel content	0.04
Kingsley-----	20	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Somewhat limited Slope	0.28
						Restricted permeability	0.15
						Gravel content	0.04
Malardi-----	20	Not limited		Not limited		Somewhat limited Slope	0.12
Forestcity-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L62C2: Koronis, eroded----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
						Gravel content	0.04
Kingsley, eroded----	25	Somewhat limited Restricted permeability	0.15	Somewhat limited Restricted permeability	0.15	Very limited Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.15
						Gravel content	0.04

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L62C2: Malardi, eroded-----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L62D2: Koronis, eroded-----	40	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope Gravel content	1.00 0.04
Kingsley, eroded----	25	Somewhat limited Slope Restricted permeability	0.96 0.15	Somewhat limited Slope Restricted permeability	0.96 0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Malardi, eroded-----	25	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L62E: Koronis-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.04
Kingsley-----	25	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability	1.00 0.15	Very limited Slope Restricted permeability Gravel content	1.00 0.15 0.04
Malardi-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L64A: Tadkee-----	50	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone Too sandy	1.00 0.89
Tadkee, depressional	36	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89
Better drained soil	8	Somewhat limited Too sandy Depth to saturated zone	0.46 0.01	Somewhat limited Too sandy	0.46	Somewhat limited Too sandy Slope Depth to saturated zone	0.46 0.03 0.01

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L64A: Granby-----	4	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89
Less sandy soil----	2	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone Too sandy	1.00 0.89
L70C2: Lester, eroded-----	60	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Malardi, eroded-----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Terril-----	12	Not limited		Not limited		Somewhat limited Slope	0.12
Hamel-----	3	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21
L70D2: Lester, eroded-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Malardi, eroded-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	12	Not limited		Not limited		Somewhat limited Slope	0.50
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Hamel-----	3	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21
L70E: Lester-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Malardi-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Somewhat limited Slope	0.50

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L70E: Hamel-----	5	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L71C: Metea-----	80	Somewhat limited Too sandy Slope	0.37 0.04	Somewhat limited Too sandy Slope	0.37 0.04	Very limited Slope Too sandy	1.00 0.37
Lester-----	15	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Moon-----	5	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
L72A: Lundlake, depressional-----	90	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L110E: Lester-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Ridgeton-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Cokato-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Belview-----	6	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hamel-----	2	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability Slope	1.00 0.21 0.12
Terril-----	2	Not limited		Not limited		Somewhat limited Slope	0.88
L110F: Lester-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L110F: Ridgeton-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Cokato-----	8	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Belview-----	4	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	2	Not limited		Not limited		Somewhat limited Slope	0.88
Hamel-----	1	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability Slope	1.00 0.21 0.12
L131A: Litchfield-----	85	Very limited Depth to saturated zone Too sandy	1.00 0.92	Somewhat limited Too sandy Depth to saturated zone	0.92 0.90	Very limited Depth to saturated zone Too sandy	1.00 0.92
Darfur-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Slope Too sandy	0.50 0.42
L132A: Hamel-----	50	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21	Very limited Depth to saturated zone Restricted permeability	1.00 0.21
Glencoe, depressional-----	30	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Hamel, overwash-----	15	Somewhat limited Depth to saturated zone Restricted permeability	0.98 0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.75 0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.98 0.21
Terril-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
M-W: Water, miscellaneous	100	Not rated		Not rated		Not rated	

Table 12a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
U1A:							
Urban land-----	80	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated		Not rated	
U2A:							
Udorthents, wet substratum-----	100	Not rated		Not rated		Not rated	
U3B:							
Udorthents (cut and fill land)-----	100	Not rated		Not rated		Not rated	
U4A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated		Not rated	
U5A:							
Urban land-----	65	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated		Not rated	
U6B:							
Urban land-----	75	Not rated		Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated		Not rated	
W:							
Water-----	100	Not rated		Not rated		Not rated	

Table 12b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D1B:							
Anoka, terrace-----	55	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Not limited	
Zimmerman, terrace--	40	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty	0.34
Kost-----	5	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Droughty	0.25
D1C:							
Anoka, terrace-----	45	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Slope	0.04
Zimmerman, terrace--	45	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty	0.34
Kost-----	10	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Droughty	0.25
D2A:							
Elkriver, rarely flooded-----	85	Not limited		Not limited		Not limited	
Mosford, rarely flooded-----	10	Not limited		Not limited		Somewhat limited Droughty	0.01
Elkriver, occasionally flooded-----	5	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
D3A:							
Elkriver, occasionally flooded-----	80	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Fordum, frequently flooded-----	15	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D3A: Winterfield, occasionally flooded-----	5	Somewhat limited Too sandy Depth to saturated zone	0.96 0.44	Somewhat limited Too sandy Depth to saturated zone	0.96 0.44	Somewhat limited Depth to saturated zone Flooding Droughty	0.75 0.60 0.22
D4A: Dorset-----	90	Not limited		Not limited		Somewhat limited Droughty	0.01
Verndale, acid substratum-----	8	Not limited		Not limited		Not limited	
Almora-----	2	Not limited		Not limited		Not limited	
D4B: Dorset-----	85	Not limited		Not limited		Somewhat limited Droughty	0.01
Verndale, acid substratum-----	10	Not limited		Not limited		Not limited	
Almora-----	5	Not limited		Not limited		Not limited	
D4C: Dorset-----	75	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	15	Not limited		Not limited		Not limited	
Almora-----	10	Not limited		Not limited		Not limited	
D5B: Dorset-----	65	Not limited		Not limited		Not limited	
Two Inlets-----	25	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.80
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	
Southhaven-----	5	Not limited		Not limited		Not limited	
D5C: Dorset-----	55	Not limited		Not limited		Not limited	
Two Inlets-----	30	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty Slope	0.80 0.04
Southhaven-----	10	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	



Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5D:							
Dorset-----	50	Not limited		Not limited		Somewhat limited Slope Droughty	0.84 0.17
Two Inlets-----	35	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Very limited Slope Droughty	1.00 0.80
Southhaven-----	10	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	
D6A:							
Verndale, acid substratum-----	90	Not limited		Not limited		Not limited	
Dorset-----	7	Not limited		Not limited		Somewhat limited Droughty	0.01
Hubbard-----	3	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.50
D6B:							
Verndale, acid substratum-----	85	Not limited		Not limited		Not limited	
Dorset-----	10	Not limited		Not limited		Somewhat limited Droughty	0.01
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.59
D6C:							
Verndale, acid substratum-----	80	Not limited		Not limited		Not limited	
Dorset-----	15	Not limited		Not limited		Not limited	
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.83
D7A:							
Hubbard-----	95	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.50
Mosford-----	5	Not limited		Not limited		Not limited	
D7B:							
Hubbard-----	90	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.59
Mosford-----	10	Not limited		Not limited		Not limited	
D7C:							
Hubbard-----	80	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.83

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D7C:							
Sandberg-----	10	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy Droughty Slope	0.50 0.38 0.16
Mosford-----	10	Not limited		Not limited		Not limited	
D8B:							
Sandberg-----	95	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy Droughty	0.50 0.38
Arvilla, MAP >25----	5	Not limited		Not limited		Somewhat limited Droughty	0.27
D8C:							
Sandberg-----	80	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy Droughty Slope	0.50 0.38 0.04
Corliss-----	15	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty Slope	0.74 0.04
Southhaven-----	5	Not limited		Not limited		Not limited	
D8D:							
Sandberg-----	80	Somewhat limited Too sandy	0.77	Somewhat limited Too sandy	0.77	Somewhat limited Slope Droughty Too sandy	0.96 0.63 0.50
Corliss-----	10	Somewhat limited Too sandy Slope	0.87 0.02	Somewhat limited Too sandy	0.87	Very limited Slope Droughty	1.00 0.74
Southhaven-----	10	Not limited		Not limited		Not limited	
D8E:							
Sandberg-----	80	Very limited Slope Too sandy	1.00 0.77	Somewhat limited Too sandy Slope	0.77 0.01	Very limited Slope Droughty Too sandy	1.00 0.63 0.50
Corliss-----	10	Very limited Slope Too sandy	1.00 0.87	Somewhat limited Too sandy Slope	0.87 0.01	Very limited Slope Droughty	1.00 0.74
Southhaven-----	10	Not limited		Not limited		Not limited	
D10A:							
Forada-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D11A: Lindaas-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Lindaas, sandy substratum-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D12B: Bygland, MAP >25----	70	Not limited		Not limited		Not limited	
Bygland, sandy substratum-----	15	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.02
Lindaas-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D12C2: Bygland, MAP >25----	70	Not limited		Not limited		Not limited	
Bygland, sandy substratum-----	15	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.02
Lindaas-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D13A: Langola, terrace----	85	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Depth to saturated zone	0.19
Duelm-----	10	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.21
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.50

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D13B:							
Langola, terrace----	85	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Not limited	
Hubbard-----	10	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.59
Duelm-----	5	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.21
D15A:							
Seelyeville, drained	65	Not rated		Not rated		Not rated	
Markey, drained----	25	Not rated		Not rated		Not rated	
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.03
D16A:							
Seelyeville, ponded	45	Not rated		Not rated		Not rated	
Markey, ponded-----	45	Not rated		Not rated		Not rated	
Mineral soil, ponded	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone Droughty	1.00 1.00 0.04
D17A:							
Duelm-----	90	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.21
Isan-----	8	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Droughty	1.00 0.04
Hubbard-----	2	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.59
D18B:							
Braham, terrace----	85	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
Duelm-----	15	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.21
D19A:							
Fordum, frequently flooded-----	65	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D19A: Winterfield, frequently flooded	25	Somewhat limited Too sandy Depth to saturated zone Flooding	 0.96 0.44 0.40	Somewhat limited Too sandy Depth to saturated zone Flooding	 0.96 0.44 0.40	Very limited Flooding Depth to saturated zone Droughty	 1.00 0.75 0.22
Fordum, occasionally flooded-----	10	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Flooding	 1.00 0.60
D20A: Isan-----	85	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Droughty	 1.00 0.04
Isan, depression--	10	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	 1.00 1.00 0.04
Duelm-----	5	Somewhat limited Too sandy	 0.87	Somewhat limited Too sandy	 0.87	Somewhat limited Droughty	 0.21
D21A: Isan, depression--	85	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	 1.00 1.00 0.04
Isan-----	15	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Droughty	 1.00 0.04
D23A: Southhaven-----	90	Not limited		Not limited		Not limited	
Dorset-----	5	Not limited		Not limited		Not limited	
Mosford-----	5	Not limited		Not limited		Not limited	
D24A: Sedgeville, occasionally flooded-----	85	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Flooding	 1.00 0.60

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D24A: Elkriver, occasionally flooded-----	15	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
D25A: Soderville, terrace	90	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Droughty Depth to saturated zone	0.20 0.19
Forada-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D26A: Foldahl, MAP >25----	90	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Not limited	
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.50
Isan-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Droughty	1.00 0.04
D27A: Dorset, loamy substratum-----	80	Not limited		Not limited		Not limited	
Dorset-----	15	Not limited		Not limited		Somewhat limited Droughty	0.01
Southhaven-----	5	Not limited		Not limited		Not limited	
D28B: Urban land-----	75	Not rated		Not rated		Not rated	
Bygland, MAP >25----	20	Not limited		Not limited		Not limited	
Bygland, sandy substratum-----	5	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.02
D29B: Urban land-----	70	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.59
Hubbard-----	5	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.59
Mosford-----	5	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D30A: Seelyeville, surface drained-----	45	Not rated		Not rated		Not rated	
Markey, surface drained-----	45	Not rated		Not rated		Not rated	
Mineral soil, surface drained----	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Droughty	0.04
D31A: Urban land-----	70	Not rated		Not rated		Not rated	
Duelm-----	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.87	Too sandy	0.87	Droughty	0.21
Hubbard-----	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.81	Too sandy	0.81	Droughty	0.59
Isan-----	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Droughty	0.04
D33B: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Not limited		Not limited		Somewhat limited	
						Droughty	0.01
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	
Hubbard-----	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.81	Too sandy	0.81	Droughty	0.50
D33C: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Not limited		Not limited		Somewhat limited	
						Slope	0.16
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	
Hubbard-----	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.81	Too sandy	0.81	Droughty	0.83
						Slope	0.63
D34B: Urban land-----	75	Not rated		Not rated		Not rated	
Hubbard-----	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.81	Too sandy	0.81	Droughty	0.59
Mosford-----	5	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D35A: Elkriver, occasionally flooded-----	70	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Fordum, occasionally flooded-----	20	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Udipsamments-----	5	Not rated		Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Somewhat limited Too sandy Depth to saturated zone	0.96 0.44	Somewhat limited Too sandy Depth to saturated zone	0.96 0.44	Somewhat limited Depth to saturated zone Flooding Droughty	0.75 0.60 0.22
D37F: Dorset, bedrock substratum-----	70	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Droughty	1.00 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Very limited Slope Too sandy	1.00 0.81	Somewhat limited Too sandy Slope	0.81 0.22	Very limited Slope Droughty	1.00 0.59
D40A: Kratka, thick solum	80	Very limited Depth to saturated zone Too sandy	1.00 0.96	Very limited Depth to saturated zone Too sandy	1.00 0.96	Very limited Depth to saturated zone	1.00
Duelm-----	10	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.21
Foldahl, MAP >25----	10	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy	0.87	Not limited	
D41C: Urban land-----	75	Not rated		Not rated		Not rated	
Waukon-----	20	Not limited		Not limited		Not limited	
Braham-----	5	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
D43A: Gonvick, terrace----	85	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75



Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D43A:							
Braham-----	15	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
GP:							
Pits, gravel-----	80	Not rated		Not rated		Not rated	
Udipsamments-----	20	Not rated		Not rated		Not rated	
L2B:							
Malardi-----	65	Not limited		Not limited		Somewhat limited Droughty	0.06
Hawick-----	25	Not limited		Not limited		Somewhat limited Droughty	0.91
Rasset-----	5	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Droughty	0.05
L2C:							
Malardi-----	60	Not limited		Not limited		Somewhat limited Droughty	0.06
Hawick-----	25	Not limited		Not limited		Somewhat limited Droughty Slope	0.91 0.16
Tomall-----	10	Not limited		Not limited		Not limited	
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Droughty	0.02
L2D:							
Malardi-----	55	Not limited		Not limited		Somewhat limited Slope Droughty	0.84 0.32
Hawick-----	30	Not limited		Not limited		Very limited Slope Droughty	1.00 0.91
Tomall-----	10	Not limited		Not limited		Not limited	
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Slope Droughty	0.84 0.02
L2E:							
Malardi-----	55	Very limited Slope	1.00	Somewhat limited Slope	0.01	Very limited Slope Droughty	1.00 0.32
Hawick-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.01	Very limited Slope Droughty	1.00 0.91
Tomall-----	15	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L3A:							
Rasset-----	90	Not limited		Not limited		Not limited	
Malardi-----	8	Not limited		Not limited		Somewhat limited Droughty	0.06
Eden Prairie-----	2	Not limited		Not limited		Somewhat limited Droughty	0.05
L3B:							
Rasset-----	80	Not limited		Not limited		Not limited	
Malardi-----	15	Not limited		Not limited		Somewhat limited Droughty	0.06
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Droughty	0.05
L3C:							
Rasset-----	75	Not limited		Not limited		Not limited	
Malardi-----	10	Not limited		Not limited		Somewhat limited Droughty	0.06
Tomall-----	10	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Droughty	0.05
L4B:							
Crowfork-----	90	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Droughty	0.02
Eden Prairie-----	10	Not limited		Not limited		Somewhat limited Droughty	0.05
L4C:							
Crowfork-----	90	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Droughty	0.02
Eden Prairie-----	10	Not limited		Not limited		Somewhat limited Droughty	0.05
L4D:							
Crowfork-----	85	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Very limited Slope Droughty	1.00 0.02
Eden Prairie-----	15	Not limited		Not limited		Somewhat limited Droughty	0.05
L6A:							
Biscay-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Biscay, depressional	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L6A: Mayer-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L7A: Biscay, depressional	80	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Biscay-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Mayer-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L8A: Darfur-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Dassel-----	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L9A: Minnetonka-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L10B: Kasota-----	80	Not limited		Not limited		Not limited	
Eden Prairie-----	10	Not limited		Not limited		Somewhat limited Droughty	0.05
Wet soil in swales--	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L11B: Grays-----	90	Not limited		Not limited		Not limited	
Kasota-----	5	Not limited		Not limited		Not limited	
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Droughty	0.02

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L12A: Muskego, frequently flooded-----	30	Not rated		Not rated		Not rated	
Blue Earth, frequently flooded	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Houghton, frequently flooded-----	30	Not rated		Not rated		Not rated	
Oshawa, frequently flooded-----	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
L13A: Klossner, drained---	80	Not rated		Not rated		Not rated	
Mineral soil, drained-----	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Houghton, drained---	5	Not rated		Not rated		Not rated	
L14A: Houghton, drained---	80	Not rated		Not rated		Not rated	
Klossner, drained---	10	Not rated		Not rated		Not rated	
Mineral soil, drained-----	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
L15A: Klossner, ponded----	30	Not rated		Not rated		Not rated	
Okoboji, ponded----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Glencoe, ponded-----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Houghton, ponded----	10	Not rated		Not rated		Not rated	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L16A:							
Muskego, ponded-----	30	Not rated		Not rated		Not rated	
Blue Earth, ponded---	30	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00
Houghton, ponded----	30	Not rated		Not rated		Not rated	
Klossner, ponded----	10	Not rated		Not rated		Not rated	
L17B:							
Angus-----	50	Not limited		Not limited		Not limited	
Malardi-----	30	Not limited		Not limited		Somewhat limited Droughty	0.06
Moon-----	10	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
Cordova-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L18A:							
Shields-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Lerdal-----	10	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.60
Mazaska-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L19B:							
Moon-----	85	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
Finchford-----	15	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.60
L20B:							
Fedji, silty substratum-----	85	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Not limited	
Finchford-----	15	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.60
L21A:							
Canisteo-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Cordova-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L21A: Glencoe-----	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L22C2: Lester, eroded-----	70	Not limited		Not limited		Somewhat limited Slope	0.04
Angus-----	15	Not limited		Not limited		Not limited	
Terril-----	12	Not limited		Not limited		Not limited	
Hamel-----	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L22D2: Lester, eroded-----	80	Not limited		Not limited		Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Not limited	
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.16
L22E: Lester, morainic----	75	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Terril-----	15	Not limited		Not limited		Not limited	
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.96
L22F: Lester, morainic----	75	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Not limited	
Ridgeton-----	10	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L23A: Cordova-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L23A: Glencoe-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Nessel-----	5	Not limited		Not limited		Not limited	
L24A: Glencoe, depressional-----	90	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Cordova-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L25A: Le Sueur-----	80	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Cordova-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Angus-----	5	Not limited		Not limited		Not limited	
L26A: Shorewood-----	85	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Minnetonka-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Good Thunder-----	5	Not limited		Not limited		Not limited	
L26B: Shorewood-----	90	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Good Thunder-----	5	Not limited		Not limited		Not limited	
Minnetonka-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L26C2: Shorewood, eroded---	95	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Slope	0.75 0.04
Minnetonka-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L27A: Suckercreek, frequently flooded	85	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Flooding Depth to saturated zone	1.00  1.00
Suckercreek, occasionally flooded-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00  0.60
Hanlon, occasionally flooded-----	5	Not limited		Not limited		Somewhat limited Flooding	0.60
L28A: Suckercreek, occasionally flooded-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00  0.60
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Flooding Depth to saturated zone	1.00  1.00
Hanlon, occasionally flooded-----	10	Not limited		Not limited		Somewhat limited Flooding	0.60
L29A: Hanlon, occasionally flooded-----	80	Not limited		Not limited		Somewhat limited Flooding	0.60
Suckercreek, occasionally flooded-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00  0.60
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Flooding Depth to saturated zone	1.00  1.00
L30A: Medo, surface drained-----	65	Not rated		Not rated		Not rated	
Medo, drained-----	20	Not rated		Not rated		Not rated	



Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L30A: Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L31A: Medo, ponded-----	30	Not rated		Not rated		Not rated	
Dassel, ponded-----	30	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Biscay, ponded-----	30	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Houghton, ponded----	5	Not rated		Not rated		Not rated	
Muskego, ponded-----	5	Not rated		Not rated		Not rated	
L32D: Hawick-----	75	Somewhat limited Too sandy Slope	0.50 0.02	Somewhat limited Too sandy	0.50	Very limited Slope Droughty	1.00 0.88
Crowfork-----	15	Somewhat limited Too sandy Slope	0.42 0.02	Somewhat limited Too sandy	0.42	Very limited Slope Droughty	1.00 0.02
Tomall-----	10	Not limited		Not limited		Not limited	
L32F: Hawick-----	75	Very limited Slope Too sandy	1.00 0.50	Somewhat limited Too sandy Slope	0.50 0.08	Very limited Slope Droughty	1.00 0.88
Crowfork-----	15	Very limited Slope Too sandy	1.00 0.42	Somewhat limited Too sandy Slope	0.42 0.08	Very limited Slope Droughty	1.00 0.02
Tomall-----	10	Not limited		Not limited		Not limited	
L35A: Lerdal-----	80	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.60
Mazaska-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Cordova-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L35A: Le Sueur-----	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
L36A: Hamel, overwash----	50	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Hamel-----	43	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Terril-----	5	Not limited		Not limited		Not limited	
Glencoe-----	2	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L37B: Angus, morainic----	80	Not limited		Not limited		Not limited	
Angus, eroded-----	10	Not limited		Not limited		Not limited	
Le Sueur-----	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Cordova-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L38A: Rushriver, occasionally flooded-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Oshawa, frequently flooded-----	15	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
Minneiska, occasionally flooded-----	5	Not limited		Not limited		Somewhat limited Flooding	0.60
Algansee, occasionally flooded-----	5	Somewhat limited Too sandy Depth to saturated zone	0.87 0.44	Somewhat limited Too sandy Depth to saturated zone	0.87 0.44	Somewhat limited Depth to saturated zone Flooding Droughty	0.75 0.60 0.21

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L39A: Minneiska, occasionally flooded-----	70	Not limited		Not limited		Somewhat limited Flooding	0.60
Rushriver, occasionally flooded-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Oshawa, frequently flooded-----	10	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
Alganssee, occasionally flooded-----	5	Somewhat limited Too sandy Depth to saturated zone	0.87 0.44	Somewhat limited Too sandy Depth to saturated zone	0.87 0.44	Somewhat limited Depth to saturated zone Flooding Droughty	0.75 0.60 0.21
L40B: Angus-----	45	Not limited		Not limited		Not limited	
Kilkenny-----	40	Somewhat limited Depth to saturated zone	0.18	Somewhat limited Depth to saturated zone	0.18	Somewhat limited Depth to saturated zone	0.56
Lerdal-----	10	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.22	Somewhat limited Depth to saturated zone	0.60
Mazaska-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L41C2: Lester, eroded-----	45	Not limited		Not limited		Somewhat limited Slope	0.04
Kilkenny, eroded----	40	Not limited		Not limited		Somewhat limited Slope	0.04
Terril-----	10	Not limited		Not limited		Not limited	
Derrynane-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L41D2: Lester, eroded-----	45	Not limited		Not limited		Very limited Slope	1.00

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails	Value	Off-road motorcycle trails	Value	Golf fairways	Value
		Rating class and limiting features		Rating class and limiting features		Rating class and limiting features	
L41D2: Kilkenny, eroded----	35	Not limited		Not limited		Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Not limited	
Derrynane-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.16
L41E: Lester-----	45	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Kilkenny-----	40	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Terril-----	5	Not limited		Not limited		Not limited	
Derrynane-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.96
L41F: Lester-----	45	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Kilkenny-----	35	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Ridgeton-----	10	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
Terril-----	5	Not limited		Not limited		Not limited	
Derrynane-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L42B: Kingsley-----	70	Not limited		Not limited		Not limited	
Gotham-----	25	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Droughty	0.01
Grays-----	5	Not limited		Not limited		Not limited	
L42C: Kingsley-----	70	Not limited		Not limited		Somewhat limited Slope	0.04
Gotham-----	25	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Slope Droughty	0.04 0.01

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42C: Grays-----	5	Not limited		Not limited		Not limited	
L42D: Kingsley-----	70	Not limited		Not limited		Somewhat limited Slope	0.96
Gotham-----	25	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Slope Droughty	0.96 0.01
Grays-----	5	Not limited		Not limited		Not limited	
L42E: Kingsley-----	70	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Gotham-----	25	Somewhat limited Slope Too sandy	0.82 0.57	Somewhat limited Too sandy	0.57	Very limited Slope Droughty	1.00 0.01
Grays-----	5	Not limited		Not limited		Not limited	
L42F: Kingsley-----	70	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Gotham-----	25	Very limited Slope Too sandy	1.00 0.57	Somewhat limited Too sandy Slope	0.57 0.22	Very limited Slope Droughty	1.00 0.01
Grays-----	5	Not limited		Not limited		Not limited	
L43A: Brouillett, occasionally flooded-----	80	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Minneiska, occasionally flooded-----	10	Not limited		Not limited		Somewhat limited Flooding	0.60
Rushriver, occasionally flooded-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
L44A: Nessel-----	85	Not limited		Not limited		Not limited	
Cordova-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Angus-----	5	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L45A:							
Dundas-----	65	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Cordova-----	25	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Nessel-----	5	Not limited		Not limited		Not limited	
Glencoe-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
L46A:							
Tomall-----	80	Not limited		Not limited		Not limited	
Rasset-----	10	Not limited		Not limited		Not limited	
Malardi-----	10	Not limited		Not limited		Somewhat limited Droughty	0.06
L47A:							
Eden Prairie-----	85	Not limited		Not limited		Somewhat limited Droughty	0.05
Malardi-----	10	Not limited		Not limited		Somewhat limited Droughty	0.06
Rasset-----	5	Not limited		Not limited		Not limited	
L47B:							
Eden Prairie-----	80	Not limited		Not limited		Somewhat limited Droughty	0.05
Malardi-----	10	Not limited		Not limited		Somewhat limited Droughty	0.06
Rasset-----	10	Not limited		Not limited		Not limited	
L47C:							
Eden Prairie-----	70	Not limited		Not limited		Somewhat limited Droughty	0.05
Malardi-----	10	Not limited		Not limited		Somewhat limited Droughty	0.06
Rasset-----	10	Not limited		Not limited		Not limited	
Hawick-----	10	Not limited		Not limited		Somewhat limited Droughty Slope	0.91 0.16
L49A:							
Klossner, surface drained-----	65	Not rated		Not rated		Not rated	
Klossner, drained---	20	Not rated		Not rated		Not rated	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L49A: Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
L50A: Houghton, surface drained-----	40	Not rated		Not rated		Not rated	
Muskego, surface drained-----	40	Not rated		Not rated		Not rated	
Klossner, drained---	10	Not rated		Not rated		Not rated	
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
L52C: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Not limited		Not limited		Not limited	
Kingsley-----	5	Not limited		Not limited		Not limited	
L52E: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
Kingsley-----	5	Somewhat limited Slope	0.50	Not limited		Very limited Slope	1.00
L53B: Urban land-----	70	Not rated		Not rated		Not rated	
Moon-----	20	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
Lester-----	10	Not limited		Not limited		Not limited	
L54A: Urban land-----	70	Not rated		Not rated		Not rated	
Dundas-----	20	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Nessel-----	10	Not limited		Not limited		Not limited	
L55B: Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Not limited		Not limited		Somewhat limited Droughty	0.06

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L55B:							
Rasset-----	5	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Somewhat limited Droughty	0.05
L55C:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Not limited		Not limited		Somewhat limited Droughty Slope	0.06 0.04
Hawick-----	5	Not limited		Not limited		Somewhat limited Droughty Slope	0.91 0.04
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Slope Droughty	0.04 0.02
L56A:							
Muskego, frequently flooded-----	45	Not rated		Not rated		Not rated	
Klossner, frequently flooded-----	45	Not rated		Not rated		Not rated	
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
L58B:							
Koronis-----	60	Not limited		Not limited		Not limited	
Kingsley-----	25	Not limited		Not limited		Not limited	
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Droughty	0.01
L58C2:							
Koronis, eroded----	55	Not limited		Not limited		Somewhat limited Slope	0.04
Kingsley, eroded----	25	Not limited		Not limited		Somewhat limited Slope	0.04
Forestcity-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Somewhat limited Slope Droughty	0.16 0.01



Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58D2: Koronis, eroded-----	55	Not limited		Not limited		Very limited Slope	1.00
Kingsley, eroded----	25	Not limited		Not limited		Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Too sandy	0.57	Somewhat limited Too sandy	0.57	Very limited Slope Droughty	1.00 0.01
L58E: Koronis-----	55	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Kingsley-----	25	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Slope Too sandy	0.82 0.57	Somewhat limited Too sandy	0.57	Very limited Slope Droughty	1.00 0.01
L59A: Forestcity-----	70	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Lundlake, depressional-----	25	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Marcellon-----	5	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
L60B: Angus-----	65	Not limited		Not limited		Not limited	
Moon-----	30	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L61C2: Lester, eroded-----	60	Not limited		Not limited		Somewhat limited Slope	0.04

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61C2: Metea, eroded-----	25	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Slope	0.04
Terril-----	12	Not limited		Not limited		Not limited	
Hamel-----	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L61D2: Lester, eroded-----	55	Not limited		Not limited		Very limited Slope	1.00
Metea, eroded-----	25	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Very limited Slope	1.00
Terril-----	12	Not limited		Not limited		Not limited	
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.16
Hamel-----	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L61E: Lester-----	55	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Metea-----	25	Somewhat limited Slope Too sandy	0.82 0.37	Somewhat limited Too sandy	0.37	Very limited Slope	1.00
Terril-----	10	Not limited		Not limited		Not limited	
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.96
L62B: Koronis-----	55	Not limited		Not limited		Not limited	
Kingsley-----	20	Not limited		Not limited		Not limited	
Malardi-----	20	Not limited		Not limited		Somewhat limited Droughty	0.32
Forestcity-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L62C2: Koronis, eroded-----	40	Not limited		Not limited		Somewhat limited Slope	0.04
Kingsley, eroded----	25	Not limited		Not limited		Somewhat limited Slope	0.04

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L62C2: Malardi, eroded-----	25	Not limited		Not limited		Somewhat limited Droughty Slope	0.32 0.04
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L62D2: Koronis, eroded-----	40	Not limited		Not limited		Somewhat limited Slope	0.96
Kingsley, eroded----	25	Not limited		Not limited		Somewhat limited Slope	0.96
Malardi, eroded-----	25	Not limited		Not limited		Somewhat limited Slope Droughty	0.96 0.32
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L62E: Koronis-----	40	Somewhat limited Slope	0.98	Not limited		Very limited Slope	1.00
Kingsley-----	25	Somewhat limited Slope	0.98	Not limited		Very limited Slope	1.00
Malardi-----	25	Somewhat limited Slope	0.98	Not limited		Very limited Slope Droughty	1.00 0.32
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L64A: Tadkee-----	50	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone	1.00
Tadkee, depressional	36	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding	1.00 1.00
Better drained soil	8	Somewhat limited Too sandy	0.46	Somewhat limited Too sandy	0.46	Not limited	
Granby-----	4	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Too sandy	1.00 1.00 0.89	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.13

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L64A: Less sandy soil-----	2	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone Too sandy	1.00 0.89	Very limited Depth to saturated zone	1.00
L70C2: Lester, eroded-----	60	Not limited		Not limited		Somewhat limited Slope	0.04
Malardi, eroded-----	25	Not limited		Not limited		Somewhat limited Droughty Slope	0.06 0.04
Terril-----	12	Not limited		Not limited		Not limited	
Hamel-----	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L70D2: Lester, eroded-----	55	Not limited		Not limited		Very limited Slope	1.00
Malardi, eroded-----	25	Not limited		Not limited		Very limited Slope Droughty	1.00 0.32
Terril-----	12	Not limited		Not limited		Not limited	
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.16
Hamel-----	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L70E: Lester-----	55	Somewhat limited Slope	0.98	Not limited		Very limited Slope	1.00
Malardi-----	25	Very limited Slope	1.00	Somewhat limited Slope	0.01	Very limited Slope Droughty	1.00 0.32
Terril-----	10	Not limited		Not limited		Not limited	
Hamel-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Not limited		Not limited		Somewhat limited Slope	0.96
L71C: Metea-----	80	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Slope	0.04
Lester-----	15	Not limited		Not limited		Somewhat limited Slope	0.04

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L71C: Moon-----	5	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Not limited	
L72A: Lundlake, depressional-----	90	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Forestcity-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L110E: Lester-----	50	Somewhat limited Slope	0.68	Not limited		Very limited Slope	1.00
Ridgeton-----	30	Somewhat limited Slope	0.08	Not limited		Very limited Slope	1.00
Cokato-----	10	Somewhat limited Slope	0.68	Not limited		Very limited Slope	1.00
Belview-----	6	Somewhat limited Slope	0.68	Not limited		Very limited Slope	1.00
Hamel-----	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Terril-----	2	Not limited		Not limited		Not limited	
L110F: Lester-----	55	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope	1.00
Ridgeton-----	30	Somewhat limited Slope	0.68	Not limited		Very limited Slope	1.00
Cokato-----	8	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Belview-----	4	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope	1.00
Terril-----	2	Not limited		Not limited		Not limited	
Hamel-----	1	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L131A: Litchfield-----	85	Somewhat limited Too sandy Depth to saturated zone	0.92 0.78	Somewhat limited Too sandy Depth to saturated zone	0.92 0.78	Somewhat limited Depth to saturated zone	0.90

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L131A: Darfur-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Crowfork-----	5	Somewhat limited Too sandy	0.42	Somewhat limited Too sandy	0.42	Somewhat limited Droughty	0.02
L132A: Hamel-----	50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Glencoe, depressional-----	30	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Hamel, overwash-----	15	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Terril-----	5	Not limited		Not limited		Not limited	
M-W: Water, miscellaneous	100	Not rated		Not rated		Not rated	
U1A: Urban land-----	80	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated		Not rated	
U2A: Udorthents, wet substratum-----	100	Not rated		Not rated		Not rated	
U3B: Udorthents (cut and fill land)-----	100	Not rated		Not rated		Not rated	
U4A: Urban land-----	70	Not rated		Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated		Not rated	
U5A: Urban land-----	65	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated		Not rated	
U6B: Urban land-----	75	Not rated		Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated		Not rated	

Table 12b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W: Water-----	100	Not rated		Not rated		Not rated	

Table 13.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D1B:											
Anoka, terrace-----	55	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Zimmerman, terrace-----	40	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Kost-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
D1C:											
Anoka, terrace-----	45	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Zimmerman, terrace-----	45	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Kost-----	10	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
D2A:											
Elkriver, rarely flooded	85	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Mosford, rarely flooded	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Elkriver, occasionally flooded-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D3A:											
Elkriver, occasionally flooded-----	80	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Fordum, frequently flooded-----	15	Very poor	Very poor	Good	Fair	Fair	Good	Good	Very poor	Fair	Good
Winterfield, occasionally flooded---	5	Poor	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair
D4A:											
Dorset-----	90	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Verndale, acid substratum-----	8	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Almora-----	2	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D4B:											
Dorset-----	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor



Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D4B:											
Verndale, acid substratum-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Almora-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D4C:											
Dorset-----	75	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Verndale, acid substratum-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Almora-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D5B:											
Dorset-----	65	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Two Inlets-----	25	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Verndale, acid substratum-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Southhaven-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D5C:											
Dorset-----	55	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Two Inlets-----	30	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Southhaven-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Verndale, acid substratum-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D5D:											
Dorset-----	50	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Two Inlets-----	35	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Southhaven-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Verndale, acid substratum-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D6A: Verndale, acid substratum-----	90	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Dorset-----	7	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	3	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D6B: Verndale, acid substratum-----	85	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Dorset-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D6C: Verndale, acid substratum-----	80	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Dorset-----	15	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D7A: Hubbard-----	95	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Mosford-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D7B: Hubbard-----	90	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Mosford-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D7C: Hubbard-----	80	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Sandberg-----	10	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Mosford-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D8B: Sandberg-----	95	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Arvilla, MAP >25-----	5	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D8C:											
Sandberg-----	80	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Corliss-----	15	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Southhaven-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D8D:											
Sandberg-----	80	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Corliss-----	10	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Southhaven-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D8E:											
Sandberg-----	80	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Corliss-----	10	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Southhaven-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D10A:											
Forada-----	95	Fair	Good	Good	Good	Good	Good	Good	Good	Good	Good
Depressional soil-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D11A:											
Lindaas-----	80	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Lindaas, sandy substratum-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Depressional soil-----	10	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D12B:											
Bygland, MAP >25-----	70	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Bygland, sandy substratum-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lindaas-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Depressional soil-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D12C2:											
Bygland, MAP >25-----	70	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Bygland, sandy substratum-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D12C2:											
Lindaas-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Depressional soil-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D13A:											
Langola, terrace-----	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Duelm-----	10	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D13B:											
Langola, terrace-----	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	10	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Duelm-----	5	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
D15A:											
Seelyeville, drained----	65	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Markey, drained-----	25	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained---	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
D16A:											
Seelyeville, ponded-----	45	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Markey, ponded-----	45	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Mineral soil, ponded----	10	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
D17A:											
Duelm-----	90	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Isan-----	8	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Hubbard-----	2	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D18B:											
Braham, terrace-----	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Duelm-----	15	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
D19A:											
Fordum, frequently flooded-----	65	Very poor	Very poor	Good	Fair	Fair	Good	Good	Very poor	Fair	Good
Winterfield, frequently flooded-----	25	Poor	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D19A: Fordum, occasionally flooded-----	10	Poor	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good
D20A: Isan-----	85	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Isan, depressional-----	10	Very poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Duelm-----	5	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
D21A: Isan, depressional-----	85	Very poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Isan-----	15	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D23A: Southhaven-----	90	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Dorset-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Mosford-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D24A: Sedgeville, occasionally flooded-----	85	Fair	Good	Good	Good	Good	Good	Good	Good	Good	Good
Elkriver, occasionally flooded-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D25A: Soderville, terrace-----	90	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Forada-----	10	Fair	Good	Good	Good	Good	Good	Good	Good	Good	Good
D26A: Foldahl, MAP >25-----	90	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Isan-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D27A: Dorset, loamy substratum	80	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Dorset-----	15	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Southhaven-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D28B:											
Urban land-----	75	---	---	---	---	---	---	---	---	---	---
Bygland, MAP >25-----	20	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Bygland, sandy substratum-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D29B:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Hubbard, bedrock substratum-----	20	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Mosford-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D30A:											
Seelyeville, surface drained-----	45	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Markey, surface drained	45	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Mineral soil, surface drained-----	10	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D31A:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Duelm-----	20	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Isan-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
D33B:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Dorset-----	20	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Verndale, acid substratum-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D33C:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Dorset-----	20	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
D33C: Verndale, acid substratum-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hubbard-----	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D34B: Urban land-----	75	---	---	---	---	---	---	---	---	---	---
Hubbard-----	20	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Mosford-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D35A: Elkriver, occasionally flooded-----	70	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Fordum, occasionally flooded-----	20	Very poor	Very poor	Good	Fair	Fair	Good	Good	Very poor	Fair	Good
Udipsamments-----	5	---	---	---	---	---	---	---	---	---	---
Winterfield, occasionally flooded---	5	Poor	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair
D37F: Dorset, bedrock substratum-----	70	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rock outcrop-----	20	---	---	---	---	---	---	---	---	---	---
Hubbard, bedrock substratum-----	10	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
D40A: Kratka, thick solum----	80	Fair	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Duelm-----	10	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Foldahl, MAP >25-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
D41C: Urban land-----	75	---	---	---	---	---	---	---	---	---	---
Waukon-----	20	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Braham-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
D43A: Gonvick, terrace-----	85	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Braham-----	15	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
GP. Pits, gravel-Udipsamments											
L2B: Malardi-----	65	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hawick-----	25	Poor	Fair	Good	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Rasset-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Eden Prairie-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L2C: Malardi-----	60	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hawick-----	25	Poor	Fair	Good	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Tomall-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Crowfork-----	5	Fair	Fair	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor
L2D: Malardi-----	55	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hawick-----	30	Poor	Fair	Good	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Tomall-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Crowfork-----	5	Fair	Fair	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor
L2E: Malardi-----	55	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hawick-----	30	Poor	Fair	Good	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Tomall-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor



Table 13.--Wildlife Habitat--Continued

[illegible]

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L7A:											
Biscay, depressional----	80	Poor	Fair	Good	Poor	Poor	Good	Good	Good	Poor	Good
Biscay-----	15	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Mayer-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L8A:											
Darfur-----	95	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Dassel-----	5	Poor	Fair	Good	Poor	Poor	Good	Good	Good	Poor	Good
L9A:											
Minnetonka-----	90	Good	Good	Good	Good	Good	Good	Good	Good	Fair	Good
Depressional soil-----	10	Poor	Fair	Good	Poor	Poor	Good	Good	Good	Poor	Good
L10B:											
Kasota-----	80	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Eden Prairie-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Wet soil in swales-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Fair	Good
L11B:											
Grays-----	90	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kasota-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Crowfork-----	5	Fair	Fair	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor
L12A:											
Muskego, frequently flooded-----	30	Very poor	Good	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Blue Earth, frequently flooded-----	30	Very poor	Good	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Houghton, frequently flooded-----	30	Very poor	Good	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Oshawa, frequently flooded-----	10	Very poor	Good	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
L13A:											
Klossner, drained-----	80	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained---	15	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Houghton, drained-----	5	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L14A:											
Houghton, drained-----	80	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Klossner, drained-----	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained---	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L15A:											
Klossner, ponded-----	30	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Okoboji, ponded-----	30	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Glencoe, ponded-----	30	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Houghton, ponded-----	10	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
L16A:											
Muskego, ponded-----	30	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Blue Earth, ponded-----	30	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Houghton, ponded-----	30	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Klossner, ponded-----	10	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
L17B:											
Angus-----	50	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	30	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Moon-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Cordova-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L18A:											
Shields-----	85	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Lerdal-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Mazaska-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L19B:											
Moon-----	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Finchford-----	15	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
L20B:											
Fedji, silty substratum	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L20B:											
Finchford-----	15	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
L21A:											
Canisteo-----	80	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Cordova-----	15	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Glencoe-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
L22C2:											
Lester, eroded-----	70	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Angus-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	12	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	3	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L22D2:											
Lester, eroded-----	80	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L22E:											
Lester, morainic-----	75	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	15	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L22F:											
Lester, morainic-----	75	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Ridgeton-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hamel-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L23A:											
Cordova-----	85	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Glencoe-----	10	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Nessel-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L24A:											
Glencoe, depressiona---	90	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Cordova-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L25A:											
Le Sueur-----	80	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Cordova-----	15	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Angus-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L26A:											
Shorewood-----	85	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Minnetonka-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Fair	Good
Good Thunder-----	5	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor
L26B:											
Shorewood-----	90	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor
Good Thunder-----	5	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor
Minnetonka-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Fair	Good
L26C2:											
Shorewood, eroded-----	95	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Minnetonka-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Fair	Good
L27A:											
Suckercreek, frequently flooded-----	85	Poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Suckercreek, occasionally flooded---	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Hanlon, occasionally flooded-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L28A:											
Suckercreek, occasionally flooded---	80	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Suckercreek, frequently flooded-----	10	Poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Hanlon, occasionally flooded-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L29A:											
Hanlon, occasionally flooded-----	80	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Suckercreek, occasionally flooded---	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Suckercreek, frequently flooded-----	10	Poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L30A:											
Medo, surface drained---	65	Very poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Medo, drained-----	20	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained---	15	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L31A:											
Medo, ponded-----	30	Very poor	Poor	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Dassel, ponded-----	30	Very poor	Poor	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Biscay, ponded-----	30	Very poor	Poor	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Houghton, ponded-----	5	Very poor	Poor	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
Muskego, ponded-----	5	Very poor	Poor	Good	Very poor	Very poor	Good	Good	Good	Very poor	Good
L32D:											
Hawick-----	75	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Crowfork-----	15	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Tomall-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L32F:											
Hawick-----	75	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Crowfork-----	15	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Tomall-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L35A:											
Lerdal-----	80	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Mazaska-----	10	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Cordova-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Le Sueur-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L36A:											
Hamel, overwash-----	50	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Hamel-----	43	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Terril-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Glencoe-----	2	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L37B:											
Angus, morainic-----	80	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Angus, eroded-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Le Sueur-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Cordova-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L38A:											
Rushriver, occasionally flooded-----	75	Poor	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Oshawa, frequently flooded-----	15	Poor	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Minneiska, occasionally flooded-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Algansee, occasionally flooded-----	5	Poor	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair
L39A:											
Minneiska, occasionally flooded-----	70	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Rushriver, occasionally flooded-----	15	Poor	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Oshawa, frequently flooded-----	10	Poor	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Algansee, occasionally flooded-----	5	Poor	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair
L40B:											
Angus-----	45	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kilkenny-----	40	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Lerdal-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Mazaska-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L41C2:											
Lester, eroded-----	45	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kilkenny, eroded-----	40	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Derrynane-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L41D2:											
Lester, eroded-----	45	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L41D2:											
Kilkenny, eroded-----	35	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Derrynane-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L41E:											
Lester-----	45	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kilkenny-----	40	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Derrynane-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L41F:											
Lester-----	45	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kilkenny-----	35	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Ridgeton-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Derrynane-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L42B:											
Kingsley-----	70	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Gotham-----	25	Poor	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Grays-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L42C:											
Kingsley-----	70	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Gotham-----	25	Poor	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Grays-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L42D:											
Kingsley-----	70	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor



Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L42D:											
Gotham-----	25	Poor	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Grays-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L42E:											
Kingsley-----	70	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Gotham-----	25	Poor	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Grays-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L42F:											
Kingsley-----	70	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Gotham-----	25	Poor	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Grays-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L43A:											
Brouillett, occasionally flooded-----	80	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Minneiska, occasionally flooded-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Rushriver, occasionally flooded-----	10	Poor	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L44A:											
Nessel-----	85	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Cordova-----	10	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Angus-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L45A:											
Dundas-----	65	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Cordova-----	25	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Nessel-----	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Glencoe-----	5	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
L46A:											
Tomall-----	80	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rasset-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L47A:											
Eden Prairie-----	85	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rasset-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L47B:											
Eden Prairie-----	80	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rasset-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L47C:											
Eden Prairie-----	70	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	10	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rasset-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hawick-----	10	Poor	Fair	Good	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
L49A:											
Klossner, surface drained-----	65	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Klossner, drained-----	20	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained---	15	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L50A:											
Houghton, surface drained-----	40	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Muskego, surface drained	40	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Klossner, drained-----	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained---	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L52C:											
Urban land-----	75	---	---	---	---	---	---	---	---	---	---
Lester-----	20	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kingsley-----	5	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L52E:											
Urban land-----	75	---	---	---	---	---	---	---	---	---	---
Lester-----	20	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kingsley-----	5	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L53B:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Moon-----	20	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lester-----	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L54A:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Dundas-----	20	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Nessel-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L55B:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Malardi-----	20	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rasset-----	5	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Eden Prairie-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L55C:											
Urban land-----	70	---	---	---	---	---	---	---	---	---	---
Malardi-----	20	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hawick-----	5	Poor	Fair	Good	Poor	Fair	Very poor	Very poor	Good	Fair	Very poor
Crowfork-----	5	Fair	Fair	Fair	Fair	Good	Very poor	Very poor	Good	Fair	Very poor
L56A:											
Muskego, frequently flooded-----	45	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Klossner, frequently flooded-----	45	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Suckercreek, frequently flooded-----	10	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good

Table 13.--Wildlife Habitat--Continued

[illegible]

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L61C2:											
Lester, eroded-----	60	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Metea, eroded-----	25	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	12	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	3	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L61D2:											
Lester, eroded-----	55	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Metea, eroded-----	25	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	12	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hamel-----	3	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
L61E:											
Lester-----	55	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Metea-----	25	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L62B:											
Koronis-----	55	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kingsley-----	20	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	20	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Forestcity-----	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L62C2:											
Koronis, eroded-----	40	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Kingsley, eroded-----	25	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi, eroded-----	25	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Forestcity-----	10	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good

Table 13.--Wildlife Habitat--Continued

[illegible]

Table 13.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements							Potential as habitat for--		
		Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
L70E:											
Lester-----	55	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Malardi-----	25	Poor	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Terril-----	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Ridgeton-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L71C:											
Metea-----	80	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lester-----	15	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Moon-----	5	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L72A:											
Lundlake, depressional--	90	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Forestcity-----	10	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L110E:											
Lester-----	50	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Ridgeton-----	30	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Cokato-----	10	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Belview-----	6	Fair	Good	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Hamel-----	2	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
Terril-----	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L110F:											
Lester-----	55	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Ridgeton-----	30	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Cokato-----	8	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Belview-----	4	Poor	Fair	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Terril-----	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel-----	1	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good

Table 13.--Wildlife Habitat--Continued

[illegible]



Table 14a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D1B:							
Anoka, terrace-----	55	Not limited		Not limited		Not limited	
Zimmerman, terrace--	40	Not limited		Not limited		Not limited	
Kost-----	5	Not limited		Not limited		Not limited	
D1C:							
Anoka, terrace-----	45	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Zimmerman, terrace--	45	Not limited		Not limited		Somewhat limited Slope	0.88
Kost-----	10	Not limited		Not limited		Somewhat limited Slope	0.88
D2A:							
Elkriver, rarely flooded-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.95	Very limited Flooding	1.00
Mosford, rarely flooded-----	10	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.16	Very limited Flooding	1.00
Elkriver, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
D3A:							
Elkriver, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
Fordum, frequently flooded-----	15	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D3A: Winterfield, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
D4A: Dorset-----	90	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	8	Not limited		Not limited		Not limited	
Almora-----	2	Not limited		Not limited		Not limited	
D4B: Dorset-----	85	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	10	Not limited		Not limited		Not limited	
Almora-----	5	Not limited		Not limited		Not limited	
D4C: Dorset-----	75	Not limited		Not limited		Somewhat limited Slope	0.88
Verndale, acid substratum-----	15	Not limited		Not limited		Not limited	
Almora-----	10	Not limited		Not limited		Not limited	
D5B: Dorset-----	65	Not limited		Not limited		Not limited	
Two Inlets-----	25	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	
Southhaven-----	5	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
D5C: Dorset-----	55	Not limited		Not limited		Somewhat limited Slope	0.88
Two Inlets-----	30	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Southhaven-----	10	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Somewhat limited Slope	0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5D:							
Dorset-----	50	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Two Inlets-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Southhaven-----	10	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Somewhat limited Slope	0.50
D6A:							
Verndale, acid substratum-----	90	Not limited		Not limited		Not limited	
Dorset-----	7	Not limited		Not limited		Not limited	
Hubbard-----	3	Not limited		Not limited		Not limited	
D6B:							
Verndale, acid substratum-----	85	Not limited		Not limited		Not limited	
Dorset-----	10	Not limited		Not limited		Not limited	
Hubbard-----	5	Not limited		Not limited		Not limited	
D6C:							
Verndale, acid substratum-----	80	Not limited		Not limited		Somewhat limited Slope	0.88
Dorset-----	15	Not limited		Not limited		Somewhat limited Slope	0.88
Hubbard-----	5	Not limited		Not limited		Very limited Slope	1.00
D7A:							
Hubbard-----	95	Not limited		Not limited		Not limited	
Mosford-----	5	Not limited		Not limited		Not limited	
D7B:							
Hubbard-----	90	Not limited		Not limited		Not limited	
Mosford-----	10	Not limited		Not limited		Not limited	
D7C:							
Hubbard-----	80	Not limited		Not limited		Very limited Slope	1.00
Sandberg-----	10	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Mosford-----	10	Not limited		Not limited		Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D8B:							
Sandberg-----	95	Not limited		Not limited		Not limited	
Arvilla, MAP >25----	5	Not limited		Not limited		Not limited	
D8C:							
Sandberg-----	80	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Corliss-----	15	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Southhaven-----	5	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
D8D:							
Sandberg-----	80	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Corliss-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Southhaven-----	10	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
D8E:							
Sandberg-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Corliss-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Southhaven-----	10	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
D10A:							
Forada-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D11A:							
Lindaas-----	80	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Lindaas, sandy substratum-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D11A: Depressional soil---	10	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
D12B: Bygland, MAP >25----	70	Very limited Shrink-swell	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.95 0.50	Very limited Shrink-swell	1.00
Bygland, sandy substratum-----	15	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.03	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.03
Lindaas-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50
D12C2: Bygland, MAP >25----	70	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.95 0.50	Very limited Slope Shrink-swell	1.00 0.50
Bygland, sandy substratum-----	15	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.03	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Slope Shrink-swell Depth to saturated zone	0.50 0.50 0.03
Lindaas-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Depressional soil---	5	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50
D13A: Langola, terrace----	85	Somewhat limited Depth to saturated zone	0.39	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.39

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D13A:							
Duelm-----	10	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
Hubbard-----	5	Not limited		Not limited		Not limited	
D13B:							
Langola, terrace----	85	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
Hubbard-----	10	Not limited		Not limited		Not limited	
Duelm-----	5	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
D15A:							
Seelyeville, drained	65	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Markey, drained-----	25	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D16A:							
Seelyeville, ponded	45	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00
Markey, ponded-----	45	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D16A: Mineral soil, ponded	10	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
D17A: Duelm-----	90	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
Isan-----	8	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Hubbard-----	2	Not limited		Not limited		Not limited	
D18B: Braham, terrace----	85	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
Duelm-----	15	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
D19A: Fordum, frequently flooded-----	65	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Winterfield, frequently flooded	25	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
Fordum, occasionally flooded-----	10	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
D20A: Isan-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Isan, depression--	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Duelm-----	5	Not limited		Very limited Depth to saturated zone	1.00	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D21A: Isan, depressional--	85	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Isan-----	15	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D23A: Southhaven-----	90	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
Dorset-----	5	Not limited		Not limited		Not limited	
Mosford-----	5	Not limited		Not limited		Not limited	
D24A: Sedgeville, occasionally flooded-----	85	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Elkriver, occasionally flooded-----	15	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
D25A: Soderville, terrace	90	Somewhat limited Depth to saturated zone	0.39	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.39
Forada-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D26A: Foldahl, MAP >25----	90	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
Hubbard-----	5	Not limited		Not limited		Not limited	
Isan-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D27A: Dorset, loamy substratum-----	80	Not limited		Not limited		Not limited	
Dorset-----	15	Not limited		Not limited		Not limited	



Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D27A: Southhaven-----	5	Not limited		Somewhat limited Depth to saturated zone	0.82	Not limited	
D28B: Urban land-----	75	Not rated		Not rated		Not rated	
Bygland, MAP >25----	20	Very limited Shrink-swell	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.95 0.50	Very limited Shrink-swell	1.00
Bygland, sandy substratum-----	5	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.03	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.03
D29B: Urban land-----	70	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Not limited		Not limited		Not limited	
Hubbard-----	5	Not limited		Not limited		Not limited	
Mosford-----	5	Not limited		Not limited		Not limited	
D30A: Seelyeville, surface drained-----	45	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Markey, surface drained-----	45	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Mineral soil, surface drained----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D31A: Urban land-----	70	Not rated		Not rated		Not rated	
Duelm-----	20	Not limited		Very limited Depth to saturated zone	1.00	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D31A:							
Hubbard-----	5	Not limited		Not limited		Not limited	
Isan-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
D33B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Not limited		Not limited		Not limited	
Verndale, acid substratum-----	5	Not limited		Not limited		Not limited	
Hubbard-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
D33C:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Verndale, acid substratum-----	5	Not limited		Not limited		Very limited Slope	1.00
Hubbard-----	5	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
D34B:							
Urban land-----	75	Not rated		Not rated		Not rated	
Hubbard-----	20	Not limited		Not limited		Not limited	
Mosford-----	5	Not limited		Not limited		Not limited	
D35A:							
Elkriver, occasionally flooded-----	70	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
Fordum, occasionally flooded-----	20	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Udipsamments-----	5	Not rated		Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D37F:							
Dorset, bedrock substratum-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
D40A:							
Kratka, thick solum	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00
Duelm-----	10	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
Foldahl, MAP >25----	10	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
D41C:							
Urban land-----	75	Not rated		Not rated		Not rated	
Waukon-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Very limited Slope Shrink-swell	1.00 0.50
Braham-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
D43A:							
Gonvick, terrace----	85	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
Braham-----	15	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
GP:							
Pits, gravel-----	80	Not rated		Not rated		Not rated	
Udipsamments-----	20	Not rated		Not rated		Not rated	
L2B:							
Malardi-----	65	Not limited		Not limited		Not limited	
Hawick-----	25	Not limited		Not limited		Not limited	
Rasset-----	5	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L2C:							
Malardi-----	60	Not limited		Not limited		Very limited Slope	1.00
Hawick-----	25	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Tomall-----	10	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
Crowfork-----	5	Not limited		Not limited		Very limited Slope	1.00
L2D:							
Malardi-----	55	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Hawick-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tomall-----	10	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
Crowfork-----	5	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
L2E:							
Malardi-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hawick-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tomall-----	15	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
L3A:							
Rasset-----	90	Not limited		Not limited		Not limited	
Malardi-----	8	Not limited		Not limited		Not limited	
Eden Prairie-----	2	Not limited		Not limited		Not limited	
L3B:							
Rasset-----	80	Not limited		Not limited		Not limited	
Malardi-----	15	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Not limited	
L3C:							
Rasset-----	75	Not limited		Not limited		Very limited Slope	1.00
Malardi-----	10	Not limited		Not limited		Very limited Slope	1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L3C:							
Tomall-----	10	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
Eden Prairie-----	5	Not limited		Not limited		Very limited Slope	1.00
L4B:							
Crowfork-----	90	Not limited		Not limited		Not limited	
Eden Prairie-----	10	Not limited		Not limited		Not limited	
L4C:							
Crowfork-----	90	Not limited		Not limited		Very limited Slope	1.00
Eden Prairie-----	10	Not limited		Not limited		Not limited	
L4D:							
Crowfork-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Eden Prairie-----	15	Not limited		Not limited		Not limited	
L6A:							
Biscay-----	85	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Biscay, depressiona	10	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Mayer-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L7A:							
Biscay, depressiona	80	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Biscay-----	15	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Mayer-----	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L8A:							
Darfur-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L8A: Dassel-----	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L9A: Minnetonka-----	90	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Depressional soil---	10	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
L10B: Kasota-----	80	Very limited Shrink-swell	1.00	Not limited		Very limited Shrink-swell	1.00
Eden Prairie-----	10	Not limited		Not limited		Not limited	
Wet soil in swales--	10	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
L11B: Grays-----	90	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell  Slope	0.50  0.12
Kasota-----	5	Very limited Shrink-swell	1.00	Not limited		Very limited Shrink-swell	1.00
Crowfork-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L12A: Muskego, frequently flooded-----	30	Very limited Ponding Subsidence Flooding Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00
Blue Earth, frequently flooded	30	Very limited Ponding Flooding Depth to saturated zone Content of organic matter Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Content of organic matter Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Content of organic matter Shrink-swell	1.00 1.00 1.00 1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L12A: Houghton, frequently flooded-----	30	Very limited Ponding Subsidence Flooding Depth to saturated zone Content of organic matter	 1.00 1.00 1.00 1.00  1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Content of organic matter	 1.00 1.00 1.00 1.00  1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Content of organic matter	 1.00 1.00 1.00 1.00  1.00
Oshawa, frequently flooded-----	10	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00
L13A: Klossner, drained---	80	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00  1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding Shrink-swell	 1.00 1.00  1.00 0.50	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00  1.00 1.00
Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	 1.00 1.00 0.50
Houghton, drained---	5	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00
L14A: Houghton, drained---	80	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00
Klossner, drained---	10	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L14A: Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding Shrink-swell	1.00  1.00 0.50	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00  1.00 0.50
L15A: Klossner, ponded----	30	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00
Okoboji, ponded-----	30	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
Glencoe, ponded-----	30	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
Houghton, ponded----	10	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00
L16A: Muskego, ponded-----	30	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00
Blue Earth, ponded--	30	Very limited Ponding Depth to saturated zone Content of organic matter Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Content of organic matter Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Content of organic matter Shrink-swell	1.00 1.00 1.00 1.00 0.50
Houghton, ponded----	30	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00 1.00



Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L16A: Klossner, ponded----	10	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00
L17B: Angus-----	50	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
Malardi-----	30	Not limited		Not limited		Somewhat limited Slope	0.12
Moon-----	10	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
Cordova-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L18A: Shields-----	85	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Lerdal-----	10	Very limited Shrink-swell Depth to saturated zone	1.00 0.90	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.90
Mazaska-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
L19B: Moon-----	85	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
Finchford-----	15	Not limited		Not limited		Somewhat limited Slope	0.12
L20B: Fedji, silty substratum-----	85	Not limited		Somewhat limited Depth to saturated zone Shrink-swell	0.87 0.50	Somewhat limited Slope	0.03
Finchford-----	15	Not limited		Not limited		Somewhat limited Slope	0.12

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L21A: Canisteo-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Cordova-----	15	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Glencoe-----	5	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
L22C2: Lester, eroded-----	70	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Angus-----	15	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
Terril-----	12	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Hamel-----	3	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L22D2: Lester, eroded-----	80	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	10	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Hamel-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
L22E: Lester, morainic----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	15	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L22E: Hamel-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L22F: Lester, morainic----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	10	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Ridgeton-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hamel-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L23A: Cordova-----	85	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Glencoe-----	10	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Nessel-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
L24A: Glencoe, depressional-----	90	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Cordova-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L25A: Le Sueur-----	80	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	0.99 0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L25A: Cordova-----	15	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00  0.50
Angus-----	5	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
L26A: Shorewood-----	85	Very limited Shrink-swell Depth to saturated zone	1.00  0.98	Very limited Depth to saturated zone Shrink-swell	1.00  1.00	Very limited Shrink-swell Depth to saturated zone	1.00  0.98
Minnetonka-----	10	Very limited Depth to saturated zone Shrink-swell	1.00  1.00	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone Shrink-swell	1.00  1.00
Good Thunder-----	5	Very limited Shrink-swell Depth to saturated zone	1.00  0.01	Very limited Depth to saturated zone	1.00	Very limited Shrink-swell Depth to saturated zone	1.00  0.01
L26B: Shorewood-----	90	Very limited Shrink-swell Depth to saturated zone	1.00  0.98	Very limited Depth to saturated zone Shrink-swell	1.00  1.00	Very limited Shrink-swell Depth to saturated zone	1.00  0.98
Good Thunder-----	5	Very limited Shrink-swell Depth to saturated zone	1.00  0.01	Very limited Depth to saturated zone	1.00	Very limited Shrink-swell Depth to saturated zone	1.00  0.01
Minnetonka-----	5	Very limited Depth to saturated zone Shrink-swell	1.00  1.00	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone Shrink-swell	1.00  1.00
L26C2: Shorewood, eroded---	95	Very limited Shrink-swell Depth to saturated zone Slope	1.00  0.98  0.04	Very limited Depth to saturated zone Shrink-swell Slope	1.00  1.00  0.04	Very limited Shrink-swell Slope Depth to saturated zone	1.00  1.00  0.98
Minnetonka-----	5	Very limited Depth to saturated zone Shrink-swell	1.00  1.00	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone Shrink-swell	1.00  1.00
L27A: Suckercreek, frequently flooded	85	Very limited Flooding Depth to saturated zone	1.00  1.00	Very limited Flooding Depth to saturated zone	1.00  1.00	Very limited Flooding Depth to saturated zone	1.00  1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L27A: Suckercreek, occasionally flooded-----	10	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Hanlon, occasionally flooded-----	5	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
L28A: Suckercreek, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Suckercreek, frequently flooded	10	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Hanlon, occasionally flooded-----	10	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
L29A: Hanlon, occasionally flooded-----	80	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
Suckercreek, occasionally flooded-----	10	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Suckercreek, frequently flooded	10	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L30A: Medo, surface drained-----	65	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Medo, drained-----	20	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L31A: Medo, ponded-----	30	Very limited Ponding Subsidence Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
Dassel, ponded-----	30	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Biscay, ponded-----	30	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
Houghton, ponded----	5	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00
Muskego, ponded-----	5	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Content of organic matter	1.00 1.00 1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L32D:							
Hawick-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Crowfork-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tomall-----	10	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
L32F:							
Hawick-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Crowfork-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tomall-----	10	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
L35A:							
Lerdal-----	80	Very limited Shrink-swell Depth to saturated zone	1.00 0.90	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.90
Mazaska-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Cordova-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Le Sueur-----	5	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	0.99 0.50
L36A:							
Hamel, overwash----	50	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone	0.98
Hamel-----	43	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Terril-----	5	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L36A: Glencoe-----	2	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
L37B: Angus, morainic----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
Angus, eroded-----	10	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.78 0.50	Somewhat limited Shrink-swell	0.50
Le Sueur-----	5	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	0.99 0.50
Cordova-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L38A: Rushriver, occasionally flooded-----	75	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Oshawa, frequently flooded-----	15	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
Minneiska, occasionally flooded-----	5	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
Alganssee, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98



Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L39A: Minneiska, occasionally flooded-----	70	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
Rushriver, occasionally flooded-----	15	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Oshawa, frequently flooded-----	10	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
Algansee, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
L40B: Angus-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
Kilkenny-----	40	Somewhat limited Depth to saturated zone Shrink-swell	0.88 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.88 0.50
Lerdal-----	10	Very limited Shrink-swell Depth to saturated zone	1.00 0.90	Very limited Depth to saturated zone	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.90
Mazaska-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
L41C2: Lester, eroded----	45	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Kilkenny, eroded----	40	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41C2: Terril-----	10	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
L41D2: Lester, eroded----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Kilkenny, eroded----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	10	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
L41E: Lester-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Kilkenny-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	5	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L41F: Lester-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41F: Kilkenny-----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Shrink-swell	1.00 0.50
Ridgeton-----	10	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	5	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
L42B: Kingsley-----	70	Not limited		Not limited		Not limited	
Gotham-----	25	Not limited		Not limited		Not limited	
Grays-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
L42C: Kingsley-----	70	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Gotham-----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Grays-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
L42D: Kingsley-----	70	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Gotham-----	25	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Grays-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
L42E: Kingsley-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Gotham-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Grays-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42F: Kingsley-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Gotham-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Grays-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
L43A: Brouillett, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
Minneiska, occasionally flooded-----	10	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
Rushriver, occasionally flooded-----	10	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
L44A: Nessel-----	85	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
Cordova-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Angus-----	5	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
L45A: Dundas-----	65	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
Cordova-----	25	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Nessel-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L45A: Glencoe-----	5	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
L46A: Tomall-----	80	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
Rasset-----	10	Not limited		Not limited		Not limited	
Malardi-----	10	Not limited		Not limited		Not limited	
L47A: Eden Prairie-----	85	Not limited		Not limited		Not limited	
Malardi-----	10	Not limited		Not limited		Not limited	
Rasset-----	5	Not limited		Not limited		Not limited	
L47B: Eden Prairie-----	80	Not limited		Not limited		Not limited	
Malardi-----	10	Not limited		Not limited		Not limited	
Rasset-----	10	Not limited		Not limited		Not limited	
L47C: Eden Prairie-----	70	Not limited		Not limited		Very limited Slope	1.00
Malardi-----	10	Not limited		Not limited		Very limited Slope	1.00
Rasset-----	10	Not limited		Not limited		Not limited	
Hawick-----	10	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
L49A: Klossner, surface drained-----	65	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Klossner, drained---	20	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L49A: Mineral soil, drained-----	15	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
L50A: Houghton, surface drained-----	40	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Muskego, surface drained-----	40	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Klossner, drained---	10	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Subsidence Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
L52C: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Kingsley-----	5	Not limited		Not limited		Somewhat limited Slope	0.88
L52E: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Kingsley-----	5	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L53B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Moon-----	20	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
Lester-----	10	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
L54A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dundas-----	20	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
Nessel-----	10	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
L55B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Not limited		Not limited		Not limited	
Rasset-----	5	Not limited		Not limited		Not limited	
Eden Prairie-----	5	Not limited		Not limited		Not limited	
L55C:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Hawick-----	5	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Crowfork-----	5	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
L56A:							
Muskego, frequently flooded-----	45	Very limited Subsidence Flooding Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Subsidence Flooding Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Subsidence Flooding Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00 1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L56A: Klossner, frequently flooded-----	45	Very limited Subsidence Flooding Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Subsidence Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 1.00 1.00 0.50	Very limited Subsidence Flooding Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00 1.00 1.00 1.00
Suckercreek, frequently flooded	10	Very limited Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00 1.00
L58B: Koronis-----	60	Not limited		Not limited		Not limited	
Kingsley-----	25	Not limited		Not limited		Not limited	
Forestcity-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50
Gotham-----	5	Not limited		Not limited		Somewhat limited Slope	0.12
L58C2: Koronis, eroded----	55	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Kingsley, eroded----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50
Gotham-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
L58D2: Koronis, eroded----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Kingsley, eroded----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50 0.50
Gotham-----	5	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00



Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58E: Koronis-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Kingsley-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Gotham-----	5	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
L59A: Forestcity-----	70	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Lundlake, depressional-----	25	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Marcellon-----	5	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
L60B: Angus-----	65	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Shrink-swell	0.50
Moon-----	30	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
Hamel-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L61C2: Lester, eroded-----	60	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Metea, eroded-----	25	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	12	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61C2: Hamel-----	3	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L61D2: Lester, eroded-----	55	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Metea, eroded-----	25	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	12	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Hamel-----	3	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L61E: Lester-----	55	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Metea-----	25	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Terril-----	10	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Hamel-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L62B: Koronis-----	55	Not limited		Not limited		Not limited	
Kingsley-----	20	Not limited		Not limited		Not limited	
Malardi-----	20	Not limited		Not limited		Not limited	
Forestcity-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L62C2:							
Koronis, eroded-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Kingsley, eroded-----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Malardi, eroded-----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Forestcity-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L62D2:							
Koronis, eroded-----	40	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Kingsley, eroded-----	25	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Malardi, eroded-----	25	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Forestcity-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L62E:							
Koronis-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Kingsley-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Malardi-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Forestcity-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L64A:							
Tadkee-----	50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Tadkee, depressional	36	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Better drained soil	8	Somewhat limited Depth to saturated zone	0.01	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.01

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L64A: Granby-----	4	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Less sandy soil----	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L70C2: Lester, eroded-----	60	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Malardi, eroded-----	25	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Terril-----	12	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Hamel-----	3	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L70D2: Lester, eroded-----	55	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Malardi, eroded-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	12	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Ridgeton-----	5	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Hamel-----	3	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L70E: Lester-----	55	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Malardi-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	10	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L70E: Hamel-----	5	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Ridgeton-----	5	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
L71C: Metea-----	80	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Lester-----	15	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
Moon-----	5	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell	0.50
L72A: Lundlake, depressional-----	90	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Forestcity-----	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L110E: Lester-----	50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Ridgeton-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Cokato-----	10	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Belview-----	6	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hamel-----	2	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Terril-----	2	Not limited		Somewhat limited Depth to saturated zone	0.78	Somewhat limited Slope	0.12

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L110F:							
Lester-----	55	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Ridgeton-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Cokato-----	8	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Belview-----	4	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Terril-----	2	Not limited		Somewhat limited Depth to saturated zone	0.78	Somewhat limited Slope	0.12
Hamel-----	1	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L131A:							
Litchfield-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Darfur-----	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Crowfork-----	5	Not limited		Not limited		Not limited	
L132A:							
Hamel-----	50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Glencoe, depressional-----	30	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Hamel, overwash-----	15	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone	0.98
Terril-----	5	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	

Table 14a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
U1A:							
Urban land-----	80	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated		Not rated	
U2A:							
Udorthents, wet substratum-----	100	Not rated		Not rated		Not rated	
U3B:							
Udorthents (cut and fill land)-----	100	Not rated		Not rated		Not rated	
U4A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated		Not rated	
U5A:							
Urban land-----	65	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated		Not rated	
U6B:							
Urban land-----	75	Not rated		Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated		Not rated	
W:							
Water-----	100	Not rated		Not rated		Not rated	

Table 14b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D1B:							
Anoka, terrace-----	55	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Zimmerman, terrace--	40	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.34
Kost-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.25
D1C:							
Anoka, terrace-----	45	Somewhat limited Frost action Slope	0.50 0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Slope	0.04
Zimmerman, terrace--	45	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.34
Kost-----	10	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.25
D2A:							
Elkriver, rarely flooded-----	85	Somewhat limited Frost action Flooding	0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.95	Not limited	
Mosford, rarely flooded-----	10	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.16	Somewhat limited Droughty	0.01
Elkriver, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
D3A:							
Elkriver, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.75 0.60



Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D3A: Fordum, frequently flooded-----	15	Very limited Depth to saturated zone Frost action Flooding	1.00  1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00  1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
Winterfield, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding Droughty	0.75 0.60 0.22
D4A: Dorset-----	90	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Verndale, acid substratum-----	8	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Almora-----	2	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
D4B: Dorset-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Verndale, acid substratum-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Almora-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
D4C: Dorset-----	75	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Verndale, acid substratum-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Almora-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
D5B: Dorset-----	65	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Two Inlets-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.80
Verndale, acid substratum-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets	Shallow excavations		Lawns and landscaping		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5B: Southhaven-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
D5C: Dorset-----	55	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Two Inlets-----	30	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope	0.80 0.04
Southhaven-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
Verndale, acid substratum-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
D5D: Dorset-----	50	Somewhat limited Slope Frost action	0.84 0.50	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Slope Droughty	0.84 0.17
Two Inlets-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.80
Southhaven-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
Verndale, acid substratum-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
D6A: Verndale, acid substratum-----	90	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Dorset-----	7	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Hubbard-----	3	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.50
D6B: Verndale, acid substratum-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Dorset-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets	Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
D6B: Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.59
D6C: Verndale, acid substratum-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited
Dorset-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited
Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.83
D7A: Hubbard-----	95	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.50
Mosford-----	5	Not limited		Very limited Cutbanks cave	1.00	Not limited
D7B: Hubbard-----	90	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.59
Mosford-----	10	Not limited		Very limited Cutbanks cave	1.00	Not limited
D7C: Hubbard-----	80	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.83
Sandberg-----	10	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Too sandy Droughty Slope
						0.50 0.38 0.16
Mosford-----	10	Not limited		Very limited Cutbanks cave	1.00	Not limited
D8B: Sandberg-----	95	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Too sandy Droughty
						0.50 0.38
Arvilla, MAP >25----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.27
D8C: Sandberg-----	80	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Too sandy Droughty Slope
						0.50 0.38 0.04
Corliss-----	15	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope
						0.74 0.04

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D8C: Southhaven-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
D8D: Sandberg-----	80	Somewhat limited Slope	0.96	Very limited Cutbanks cave Slope	1.00 0.96	Somewhat limited Slope Droughty Too sandy	0.96 0.63 0.50
Corliss-----	10	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.74
Southhaven-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
D8E: Sandberg-----	80	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Too sandy	1.00 0.63 0.50
Corliss-----	10	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.74
Southhaven-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
D10A: Forada-----	95	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Depressional soil---	5	Very limited Depth to saturated zone Frost action Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
D11A: Lindaas-----	80	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10	Very limited Depth to saturated zone	1.00
Lindaas, sandy substratum-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Too clayey	1.00 1.00 0.12	Very limited Depth to saturated zone	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D11A: Depressional soil---	10	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Too clayey Cutbanks cave	 1.00 1.00 0.12 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00
D12B: Bygland, MAP >25----	70	Very limited Frost action Shrink-swell	 1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave Too clayey	 0.95 0.10 0.04	Not limited	
Bygland, sandy substratum-----	15	Very limited Frost action Shrink-swell Depth to saturated zone	 1.00 0.50 0.02	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00 1.00 0.04	Somewhat limited Depth to saturated zone	 0.02
Lindaas-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.12 0.10	Very limited Depth to saturated zone	 1.00
Depressional soil---	5	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Too clayey Cutbanks cave	 1.00 1.00 0.12 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00
D12C2: Bygland, MAP >25----	70	Very limited Frost action Shrink-swell	 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave Too clayey	 0.95 0.10 0.04	Not limited	
Bygland, sandy substratum-----	15	Very limited Frost action Shrink-swell Depth to saturated zone	 1.00 0.50 0.02	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00 1.00 0.04	Somewhat limited Depth to saturated zone	 0.02
Lindaas-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.12 0.10	Very limited Depth to saturated zone	 1.00
Depressional soil---	5	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Too clayey Cutbanks cave	 1.00 1.00 0.12 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D13A: Langola, terrace----	85	Somewhat limited Depth to saturated zone	0.19	Very limited Depth to saturated zone Cutbanks cave Depth to dense layer	1.00 1.00 0.50	Somewhat limited Depth to saturated zone	0.19
Duelm-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited Droughty	0.21
Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.50
D13B: Langola, terrace----	85	Not limited		Very limited Cutbanks cave Depth to saturated zone Depth to dense layer	1.00 1.00 0.50	Not limited	
Hubbard-----	10	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.59
Duelm-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited Droughty	0.21
D15A: Seelyeville, drained	65	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Content of organic matter Ponding Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Not rated	
Markey, drained----	25	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding Content of organic matter	1.00 1.00 1.00 1.00	Not rated	
Mineral soil, drained-----	10	Very limited Depth to saturated zone Ponding Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.03

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D16A: Seelyeville, ponded	45	Very limited Ponding Depth to saturated zone Subsidence Frost action	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Content of organic matter Cutbanks cave	 1.00 1.00 1.00 0.10	Not rated	
Markey, ponded-----	45	Very limited Ponding Depth to saturated zone Subsidence Frost action	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave Content of organic matter	 1.00 1.00 1.00 1.00	Not rated	
Mineral soil, ponded	10	Very limited Ponding Depth to saturated zone Frost action	 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Cutbanks cave	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Droughty	 1.00 1.00 0.04
D17A: Duelm-----	90	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 1.00	Somewhat limited Droughty	 0.21
Isan-----	8	Very limited Depth to saturated zone Frost action	 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 1.00	Very limited Depth to saturated zone Droughty	 1.00 0.04
Hubbard-----	2	Not limited		Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	 0.59
D18B: Braham, terrace----	85	Somewhat limited Shrink-swell	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 1.00	Not limited	
Duelm-----	15	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 1.00	Somewhat limited Droughty	 0.21
D19A: Fordum, frequently flooded-----	65	Very limited Depth to saturated zone Frost action Flooding	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	 1.00 1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D19A: Winterfield, frequently flooded	25	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone Droughty	1.00 0.75 0.22
Fordum, occasionally flooded-----	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60
D20A: Isan-----	85	Very limited Depth to saturated zone Frost action	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone Droughty	1.00 0.04
Isan, depression--	10	Very limited Depth to saturated zone Ponding Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.04
Duelm-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited Droughty	0.21
D21A: Isan, depression--	85	Very limited Depth to saturated zone Ponding Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.04
Isan-----	15	Very limited Depth to saturated zone Frost action	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone Droughty	1.00 0.04
D23A: Southhaven-----	90	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
Dorset-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Mosford-----	5	Not limited		Very limited Cutbanks cave	1.00	Not limited	



Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D24A: Sedgeville, occasionally flooded-----	85	Very limited Depth to saturated zone Frost action Flooding	1.00  1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00  1.00 0.60	Very limited Depth to saturated zone Flooding	1.00  0.60
Elkriver, occasionally flooded-----	15	Very limited Flooding Depth to saturated zone Frost action	1.00  0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00  1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.75  0.60
D25A: Soderville, terrace	90	Somewhat limited Frost action Depth to saturated zone	0.50  0.19	Very limited Depth to saturated zone Cutbanks cave	1.00  1.00	Somewhat limited Droughty Depth to saturated zone	0.20  0.19
Forada-----	10	Very limited Depth to saturated zone Frost action	1.00  1.00	Very limited Depth to saturated zone Cutbanks cave	1.00  1.00	Very limited Depth to saturated zone	1.00
D26A: Foldahl, MAP >25----	90	Not limited		Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.50
Isan-----	5	Very limited Depth to saturated zone Frost action	1.00  0.50	Very limited Depth to saturated zone Cutbanks cave	1.00  1.00	Very limited Depth to saturated zone Droughty	1.00  0.04
D27A: Dorset, loamy substratum-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Dorset-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Southhaven-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.82	Not limited	
D28B: Urban land-----	75	Not rated		Not rated		Not rated	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D28B:							
Bygland, MAP >25----	20	Very limited Frost action Shrink-swell	1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave Too clayey	0.95 0.10 0.04	Not limited	
Bygland, sandy substratum-----	5	Very limited Frost action Shrink-swell Depth to saturated zone	1.00 0.50 0.02	Very limited Depth to saturated zone Cutbanks cave Too clayey	1.00 1.00 0.04	Somewhat limited Depth to saturated zone	0.02
D29B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.59
Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.59
Mosford-----	5	Not limited		Very limited Cutbanks cave	1.00	Not limited	
D30A:							
Seelyeville, surface drained-----	45	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Content of organic matter Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Not rated	
Markey, surface drained-----	45	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding Content of organic matter	1.00 1.00 1.00 1.00	Not rated	
Mineral soil, surface drained----	10	Very limited Depth to saturated zone Ponding Frost action	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.04
D31A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Duelm-----	20	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited Droughty	0.21

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D31A: Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.59
Isan-----	5	Very limited Depth to saturated zone Frost action	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone Droughty	1.00 0.04
D33B: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Verndale, acid substratum-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Hubbard-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.50
D33C: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Somewhat limited Frost action Slope	0.50 0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
Verndale, acid substratum-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Hubbard-----	5	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Droughty Slope	0.83 0.63
D34B: Urban land-----	75	Not rated		Not rated		Not rated	
Hubbard-----	20	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.59
Mosford-----	5	Not limited		Very limited Cutbanks cave	1.00	Not limited	
D35A: Elkriver, occasionally flooded-----	70	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Fordum, occasionally flooded-----	20	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D35A: Udipsamments-----	5	Not rated		Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding Droughty	0.75 0.60 0.22
D37F: Dorset, bedrock substratum-----	70	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.59
D40A: Kratka, thick solum	80	Very limited Depth to saturated zone Frost action	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Duelm-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited Droughty	0.21
Foldahl, MAP >25----	10	Not limited		Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
D41C: Urban land-----	75	Not rated		Not rated		Not rated	
Waukon-----	20	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Braham-----	5	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
D43A: Gonvick, terrace----	85	Very limited Frost action Depth to saturated zone Shrink-swell	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D43A: Braham-----	15	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
GP: Pits, gravel-----	80	Not rated		Not rated		Not rated	
Udipsamments-----	20	Not rated		Not rated		Not rated	
L2B: Malardi-----	65	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Hawick-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.91
Rasset-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Eden Prairie-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L2C: Malardi-----	60	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Hawick-----	25	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Droughty Slope	0.91 0.16
Tomall-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.61	Not limited	
Crowfork-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.02
L2D: Malardi-----	55	Somewhat limited Slope Frost action	0.84 0.50	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Slope Droughty	0.84 0.32
Hawick-----	30	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.91
Tomall-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.61	Not limited	
Crowfork-----	5	Somewhat limited Slope	0.84	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Slope Droughty	0.84 0.02

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L2E:							
Malardi-----	55	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.32
Hawick-----	30	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.91
Tomall-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.61	Not limited	
L3A:							
Rasset-----	90	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Malardi-----	8	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Eden Prairie-----	2	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L3B:							
Rasset-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Malardi-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Eden Prairie-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L3C:							
Rasset-----	75	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Malardi-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Tomall-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.61	Not limited	
Eden Prairie-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L4B:							
Crowfork-----	90	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.02
Eden Prairie-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L4C:							
Crowfork-----	90	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.02

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets	Shallow excavations		Lawns and landscaping		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L4C: Eden Prairie-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L4D: Crowfork-----	85	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.02
Eden Prairie-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L6A: Biscay-----	85	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Biscay, depressional	10	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Mayer-----	5	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
L7A: Biscay, depressional	80	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Biscay-----	15	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Mayer-----	5	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
L8A: Darfur-----	95	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Dassel-----	5	Very limited Depth to saturated zone Frost action Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L9A: Minnetonka-----	90	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.12 0.10	Very limited Depth to saturated zone	 1.00
Depressional soil---	10	Very limited Depth to saturated zone Frost action Shrink-swell Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey Cutbanks cave	 1.00 1.00 0.12 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00
L10B: Kasota-----	80	Very limited Frost action Shrink-swell	 1.00 1.00	Very limited Cutbanks cave Too clayey	 1.00 0.12	Not limited	
Eden Prairie-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	 0.05
Wet soil in swales--	10	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00 1.00 0.12	Very limited Depth to saturated zone	 1.00
L11B: Grays-----	90	Very limited Frost action Shrink-swell	 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Not limited	
Kasota-----	5	Very limited Frost action Shrink-swell	 1.00 1.00	Very limited Cutbanks cave Too clayey	 1.00 0.12	Not limited	
Crowfork-----	5	Not limited		Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	 0.02
L12A: Muskego, frequently flooded-----	30	Very limited Ponding Depth to saturated zone Subsidence Flooding Frost action	 1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Content of organic matter Flooding Cutbanks cave	 1.00 1.00 1.00 0.80 0.10	Not rated	
Blue Earth, frequently flooded	30	Very limited Ponding Depth to saturated zone Frost action Flooding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Content of organic matter Flooding Cutbanks cave	 1.00 1.00 1.00 0.80 0.10	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00



Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets	Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
L12A: Houghton, frequently flooded-----	30	Not rated		Very limited Ponding Depth to saturated zone Content of organic matter Flooding Cutbanks cave	1.00 1.00 1.00 0.80 0.10	Not rated
Oshawa, frequently flooded-----	10	Very limited Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.80 0.10	Very limited Ponding Flooding Depth to saturated zone
L13A: Klossner, drained---	80	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Content of organic matter Cutbanks cave	1.00 1.00 1.00 0.10	Not rated
Mineral soil, drained-----	15	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding
Houghton, drained---	5	Not rated		Very limited Depth to saturated zone Content of organic matter Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Not rated
L14A: Houghton, drained---	80	Not rated		Very limited Depth to saturated zone Content of organic matter Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Not rated
Klossner, drained---	10	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Content of organic matter Cutbanks cave	1.00 1.00 1.00 0.10	Not rated

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L14A: Mineral soil, drained-----	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
L15A: Klossner, ponded----	30	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Content of organic matter	1.00		
		Frost action	1.00	Cutbanks cave	0.10		
Okoboji, ponded-----	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
Glencoe, ponded-----	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Houghton, ponded----	10	Not rated		Very limited		Not rated	
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Content of organic matter	1.00		
				Cutbanks cave	0.10		
L16A: Muskego, ponded-----	30	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Content of organic matter	1.00		
		Frost action	1.00	Cutbanks cave	0.10		
Blue Earth, ponded--	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Content of organic matter	1.00		
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L16A: Houghton, ponded----	30	Not rated		Very limited Ponding Depth to saturated zone Content of organic matter Cutbanks cave	 1.00 1.00 1.00 0.10	Not rated	
Klossner, ponded----	10	Very limited Ponding Depth to saturated zone Subsidence Frost action	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Content of organic matter Cutbanks cave	 1.00 1.00 1.00 0.10	Not rated	
L17B: Angus-----	50	Somewhat limited Shrink-swell Frost action	 0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Malardi-----	30	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	0.06
Moon-----	10	Somewhat limited Shrink-swell	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 1.00	Not limited	
Cordova-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	1.00
L18A: Shields-----	85	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.12 0.10	Very limited Depth to saturated zone	1.00
Lerdal-----	10	Very limited Frost action Shrink-swell Depth to saturated zone	 1.00 1.00 0.60	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.12 0.10	Somewhat limited Depth to saturated zone	0.60
Mazaska-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00 0.10 0.03	Very limited Depth to saturated zone	1.00
L19B: Moon-----	85	Somewhat limited Shrink-swell	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 1.00	Not limited	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets	Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features
L19B: Finchford-----	15	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.60
L20B: Fedji, silty substratum-----	85	Not limited		Very limited Cutbanks cave Depth to saturated zone	1.00 0.87	Not limited
Finchford-----	15	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty
						0.60
L21A: Canisteo-----	80	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone
						1.00
Cordova-----	15	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone
						1.00
Glencoe-----	5	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding
						1.00
L22C2: Lester, eroded-----	70	Somewhat limited Shrink-swell Frost action Slope	0.50 0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope
						0.04
Angus-----	15	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited
Terril-----	12	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited
Hamel-----	3	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone
						1.00
L22D2: Lester, eroded-----	80	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope
						1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L22D2: Terril-----	10	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Hamel-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Somewhat limited Frost action Slope	0.50 0.16	Somewhat limited Slope Cutbanks cave	0.16 0.10	Somewhat limited Slope	0.16
L22E: Lester, morainic----	75	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Terril-----	15	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Hamel-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Somewhat limited Slope Frost action	0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
L22F: Lester, morainic----	75	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Terril-----	10	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Ridgeton-----	10	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Hamel-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L23A: Cordova-----	85	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
Glencoe-----	10	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00
Nessel-----	5	Very limited Frost action Shrink-swell	 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Not limited	
L24A: Glencoe, depressional-----	90	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00
Cordova-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
L25A: Le Sueur-----	80	Very limited Frost action Depth to saturated zone Shrink-swell	 1.00 0.78 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.78
Cordova-----	15	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
Angus-----	5	Somewhat limited Shrink-swell Frost action	 0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
L26A: Shorewood-----	85	Very limited Frost action Shrink-swell Depth to saturated zone	 1.00 1.00 0.75	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.15 0.10	Somewhat limited Depth to saturated zone	 0.75

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L26A: Minnetonka-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10	Very limited Depth to saturated zone	1.00
Good Thunder-----	5	Very limited Frost action Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.15 0.10	Not limited	
L26B: Shorewood-----	90	Very limited Frost action Shrink-swell Depth to saturated zone	1.00 1.00 0.75	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.15 0.10	Somewhat limited Depth to saturated zone	0.75
Good Thunder-----	5	Very limited Frost action Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.15 0.10	Not limited	
Minnetonka-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10	Very limited Depth to saturated zone	1.00
L26C2: Shorewood, eroded---	95	Very limited Frost action Shrink-swell Depth to saturated zone Slope	1.00 1.00 0.75 0.04	Very limited Depth to saturated zone Too clayey Cutbanks cave Slope	1.00 0.15 0.10 0.04	Somewhat limited Depth to saturated zone Slope	0.75 0.04
Minnetonka-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10	Very limited Depth to saturated zone	1.00
L27A: Suckercreek, frequently flooded	85	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
Suckercreek, occasionally flooded-----	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L27A: Hanlon, occasionally flooded-----	5	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Flooding	0.60
L28A: Suckercreek, occasionally flooded-----	80	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
Hanlon, occasionally flooded-----	10	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Flooding	0.60
L29A: Hanlon, occasionally flooded-----	80	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Flooding	0.60
Suckercreek, occasionally flooded-----	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00



Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L30A: Medo, surface drained-----	65	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding Content of organic matter	1.00 1.00 1.00 1.00	Not rated	
Medo, drained-----	20	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding Content of organic matter	1.00 1.00 1.00 1.00	Not rated	
Mineral soil, drained-----	15	Very limited Depth to saturated zone Frost action Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
L31A: Medo, ponded-----	30	Very limited Ponding Depth to saturated zone Subsidence Frost action Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Cutbanks cave Content of organic matter	1.00 1.00 1.00 1.00	Not rated	
Dassel, ponded-----	30	Very limited Ponding Depth to saturated zone Frost action	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Biscay, ponded-----	30	Very limited Ponding Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Houghton, ponded----	5	Not rated		Very limited Ponding Depth to saturated zone Content of organic matter Cutbanks cave	1.00 1.00 1.00 0.10	Not rated	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L31A: Muskego, ponded-----	5	Very limited Ponding Depth to saturated zone Subsidence Frost action	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Content of organic matter Cutbanks cave	 1.00 1.00 1.00 0.10	Not rated	
L32D: Hawick-----	75	Very limited Slope	 1.00	Very limited Cutbanks cave Slope	 1.00 1.00	Very limited Slope Droughty	 1.00 0.88
Crowfork-----	15	Very limited Slope	 1.00	Very limited Cutbanks cave Slope	 1.00 1.00	Very limited Slope Droughty	 1.00 0.02
Tomall-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.61	Not limited	
L32F: Hawick-----	75	Very limited Slope	 1.00	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Droughty	 1.00 0.88
Crowfork-----	15	Very limited Slope	 1.00	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Droughty	 1.00 0.02
Tomall-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.61	Not limited	
L35A: Lerdal-----	80	Very limited Frost action Shrink-swell Depth to saturated zone	 1.00 1.00 0.60	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.60
Mazaska-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00 0.10 0.03	Very limited Depth to saturated zone	 1.00
Cordova-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
Le Sueur-----	5	Very limited Frost action Depth to saturated zone Shrink-swell	 1.00 0.78 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.78

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L36A: Hamel, overwash-----	50	Very limited Frost action Depth to saturated zone	1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Hamel-----	43	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Terril-----	5	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Glencoe-----	2	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
L37B: Angus, morainic-----	80	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Angus, eroded-----	10	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Le Sueur-----	5	Very limited Frost action Depth to saturated zone Shrink-swell	1.00 0.78 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.78
Cordova-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L38A: Rushriver, occasionally flooded-----	75	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L38A: Oshawa, frequently flooded-----	15	Very limited Ponding Depth to saturated zone Frost action Flooding	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	 1.00 1.00 0.80 0.10	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00
Minneiska, occasionally flooded-----	5	Very limited Flooding Frost action	 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Flooding	 1.00 1.00 0.60	Somewhat limited Flooding	 0.60
Algansee, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Frost action	 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding Droughty	 0.75 0.60 0.21
L39A: Minneiska, occasionally flooded-----	70	Very limited Flooding Frost action	 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Flooding	 1.00 1.00 0.60	Somewhat limited Flooding	 0.60
Rushriver, occasionally flooded-----	15	Very limited Depth to saturated zone Frost action Flooding	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	 1.00 0.60
Oshawa, frequently flooded-----	10	Very limited Ponding Depth to saturated zone Frost action Flooding	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	 1.00 1.00 0.80 0.10	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00
Algansee, occasionally flooded-----	5	Very limited Flooding Depth to saturated zone Frost action	 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding Droughty	 0.75 0.60 0.21

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L40B: Angus-----	45	Somewhat limited Shrink-swell Frost action	 0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Kilkenny-----	40	Very limited Frost action Depth to saturated zone Shrink-swell	 1.00 0.56 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	0.56
Lerdal-----	10	Very limited Frost action Shrink-swell Depth to saturated zone	 1.00 1.00 0.60	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	0.60
Mazaska-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00 0.10 0.03	Very limited Depth to saturated zone	1.00
L41C2: Lester, eroded-----	45	Somewhat limited Shrink-swell Frost action Slope	 0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	 0.10 0.04	Somewhat limited Slope	0.04
Kilkenny, eroded----	40	Very limited Frost action Shrink-swell Slope	 1.00 0.50 0.04	Very limited Depth to saturated zone Cutbanks cave Slope	 1.00 0.10 0.04	Somewhat limited Slope	0.04
Terril-----	10	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	1.00
L41D2: Lester, eroded-----	45	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	1.00
Kilkenny, eroded----	35	Very limited Frost action Slope Shrink-swell	 1.00 1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	 1.00 1.00 0.10	Very limited Slope	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41D2: Terril-----	10	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Somewhat limited Frost action Slope	0.50 0.16	Somewhat limited Slope Cutbanks cave	0.16 0.10	Somewhat limited Slope	0.16
L41E: Lester-----	45	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Kilkenny-----	40	Very limited Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Slope	1.00
Terril-----	5	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Somewhat limited Slope Frost action	0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
L41F: Lester-----	45	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Kilkenny-----	35	Very limited Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Slope	1.00
Ridgeton-----	10	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41F: Terril-----	5	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Derrynane-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L42B: Kingsley-----	70	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Gotham-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Grays-----	5	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
L42C: Kingsley-----	70	Somewhat limited Slope	0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Gotham-----	25	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Slope Droughty	0.04 0.01
Grays-----	5	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
L42D: Kingsley-----	70	Somewhat limited Slope	0.96	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
Gotham-----	25	Somewhat limited Slope	0.96	Very limited Cutbanks cave Slope	1.00 0.96	Somewhat limited Slope Droughty	0.96 0.01
Grays-----	5	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
L42E: Kingsley-----	70	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Gotham-----	25	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.01

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42E: Grays-----	5	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
L42F: Kingsley-----	70	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Gotham-----	25	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.01
Grays-----	5	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
L43A: Brouillett, occasionally flooded-----	80	Very limited Flooding Low strength Depth to saturated zone Frost action	1.00 0.78 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
Minneiska, occasionally flooded-----	10	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Flooding	0.60
Rushriver, occasionally flooded-----	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Very limited Depth to saturated zone Flooding	1.00 0.60
L44A: Nessel-----	85	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
Cordova-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00



Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L44A: Angus-----	5	Somewhat limited Shrink-swell Frost action	 0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
L45A: Dundas-----	65	Very limited Frost action Depth to saturated zone Shrink-swell	 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Cordova-----	25	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	1.00
Nessel-----	5	Very limited Frost action Shrink-swell	 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Not limited	
Glencoe-----	5	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
L46A: Tomall-----	80	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.61	Not limited	
Rasset-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Not limited	
Malardi-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	0.06
L47A: Eden Prairie-----	85	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	0.05
Malardi-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	0.06
Rasset-----	5	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Not limited	
L47B: Eden Prairie-----	80	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	0.05
Malardi-----	10	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Somewhat limited Droughty	0.06

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L47B: Rasset-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
L47C: Eden Prairie-----	70	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
Malardi-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Rasset-----	10	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Hawick-----	10	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Droughty Slope	0.91 0.16
L49A: Klossner, surface drained-----	65	Very limited Depth to saturated zone Subsidence Frost action	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Content of organic matter Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Not rated	
Klossner, drained---	20	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Content of organic matter Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Not rated	
Mineral soil, drained-----	15	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
L50A: Houghton, surface drained-----	40	Not rated		Very limited Depth to saturated zone Content of organic matter Ponding Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Not rated	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L50A: Muskego, surface drained-----	40	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Content of organic matter Ponding Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Not rated	
Klossner, drained---	10	Very limited Depth to saturated zone Subsidence Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Content of organic matter Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Not rated	
Mineral soil, drained-----	10	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
L52C: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Kingsley-----	5	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
L52E: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Kingsley-----	5	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
L53B: Urban land-----	70	Not rated		Not rated		Not rated	
Moon-----	20	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
Lester-----	10	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L54A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dundas-----	20	Very limited Frost action Depth to saturated zone Shrink-swell	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Nessel-----	10	Very limited Frost action Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Not limited	
L55B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.06
Rasset-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Eden Prairie-----	5	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
L55C:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Somewhat limited Frost action Slope	0.50 0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope	0.06 0.04
Hawick-----	5	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope	0.91 0.04
Crowfork-----	5	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Slope Droughty	0.04 0.02
L56A:							
Muskego, frequently flooded-----	45	Very limited Depth to saturated zone Subsidence Ponding Frost action Flooding	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Content of organic matter Ponding Flooding Cutbanks cave	1.00 1.00 1.00 1.00 0.80 0.10	Not rated	
Klossner, frequently flooded-----	45	Very limited Depth to saturated zone Subsidence Frost action Ponding Flooding	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Content of organic matter Flooding Cutbanks cave	1.00 1.00 1.00 1.00 0.80 0.10	Not rated	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L56A: Suckercreek, frequently flooded	10	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
L58B: Koronis-----	60	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Kingsley-----	25	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Forestcity-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Gotham-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
L58C2: Koronis, eroded----	55	Somewhat limited Frost action Slope	0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Kingsley, eroded----	25	Somewhat limited Slope	0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Forestcity-----	15	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Gotham-----	5	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope Droughty	0.16 0.01
L58D2: Koronis, eroded----	55	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Kingsley, eroded----	25	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Gotham-----	5	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.01

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58E:							
Koronis-----	55	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Kingsley-----	25	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Forestcity-----	15	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Gotham-----	5	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.01
L59A:							
Forestcity-----	70	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Lundlake, depressional-----	25	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
Marcellon-----	5	Very limited Frost action Depth to saturated zone Shrink-swell	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
L60B:							
Angus-----	65	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Moon-----	30	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
Hamel-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61C2:							
Lester, eroded-----	60	Somewhat limited Shrink-swell Frost action Slope	 0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	 0.10 0.04	Somewhat limited Slope	 0.04
Metea, eroded-----	25	Somewhat limited Shrink-swell Slope	 0.50 0.04	Very limited Cutbanks cave Slope	 1.00 0.04	Somewhat limited Slope	 0.04
Terril-----	12	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Hamel-----	3	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
L61D2:							
Lester, eroded-----	55	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Metea, eroded-----	25	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Cutbanks cave Slope	 1.00 1.00	Very limited Slope	 1.00
Terril-----	12	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Ridgeton-----	5	Somewhat limited Frost action Slope	 0.50 0.16	Somewhat limited Slope Cutbanks cave	 0.16 0.10	Somewhat limited Slope	 0.16
Hamel-----	3	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
L61E:							
Lester-----	55	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Metea-----	25	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope	 1.00
Terril-----	10	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61E: Hamel-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Ridgeton-----	5	Somewhat limited Slope Frost action	0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
L62B: Koronis-----	55	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Kingsley-----	20	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Malardi-----	20	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.32
Forestcity-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L62C2: Koronis, eroded----	40	Somewhat limited Frost action Slope	0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Kingsley, eroded----	25	Somewhat limited Slope	0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Malardi, eroded----	25	Somewhat limited Frost action Slope	0.50 0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope	0.32 0.04
Forestcity-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L62D2: Koronis, eroded----	40	Somewhat limited Slope Frost action	0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
Kingsley, eroded----	25	Somewhat limited Slope	0.96	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
Malardi, eroded----	25	Somewhat limited Slope Frost action	0.96 0.50	Very limited Cutbanks cave Slope	1.00 0.96	Somewhat limited Slope Droughty	0.96 0.32



Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L62D2: Forestcity-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L62E: Koronis-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Kingsley-----	25	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Malardi-----	25	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.32
Forestcity-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L64A: Tadkee-----	50	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Tadkee, depressional	36	Very limited Depth to saturated zone Frost action Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Better drained soil	8	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
Granby-----	4	Very limited Depth to saturated zone Frost action Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Droughty	1.00 1.00 0.13
Less sandy soil-----	2	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L70C2: Lester, eroded-----	60	Somewhat limited Shrink-swell Frost action Slope	0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L70C2: Malardi, eroded-----	25	Somewhat limited Frost action Slope	 0.50 0.04	Very limited Cutbanks cave Slope	 1.00 0.04	Somewhat limited Droughty Slope	 0.06 0.04
Terril-----	12	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Hamel-----	3	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
L70D2: Lester, eroded-----	55	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Malardi, eroded-----	25	Very limited Slope Frost action	 1.00 0.50	Very limited Cutbanks cave Slope	 1.00 1.00	Very limited Slope Droughty	 1.00 0.32
Terril-----	12	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Ridgeton-----	5	Somewhat limited Frost action Slope	 0.50 0.16	Somewhat limited Slope Cutbanks cave	 0.16 0.10	Somewhat limited Slope	 0.16
Hamel-----	3	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00
L70E: Lester-----	55	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Malardi-----	25	Very limited Slope Frost action	 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Droughty	 1.00 0.32
Terril-----	10	Somewhat limited Frost action	 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.78 0.10	Not limited	
Hamel-----	5	Very limited Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited Depth to saturated zone	 1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets	Shallow excavations		Lawns and landscaping		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L70E: Ridgeton-----	5	Somewhat limited Slope Frost action	0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
L71C: Metea-----	80	Somewhat limited Shrink-swell Slope	0.50 0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Slope	0.04
Lester-----	15	Somewhat limited Shrink-swell Frost action Slope	0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
Moon-----	5	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
L72A: Lundlake, depressional-----	90	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
Forestcity-----	10	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L110E: Lester-----	50	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Ridgeton-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Cokato-----	10	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Belview-----	6	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Hamel-----	2	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L110E: Terril-----	2	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
L110F: Lester-----	55	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Ridgeton-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Cokato-----	8	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Belview-----	4	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Terril-----	2	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
Hamel-----	1	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
L131A: Litchfield-----	85	Somewhat limited Depth to saturated zone Frost action	0.90 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to saturated zone	0.90
Darfur-----	10	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone	1.00
Crowfork-----	5	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.02
L132A: Hamel-----	50	Very limited Depth to saturated zone Frost action Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00

Table 14b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L132A: Glencoe, depressional-----	30	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
Hamel, overwash----	15	Very limited Frost action Depth to saturated zone	1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Terril-----	5	Somewhat limited Frost action	0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.78 0.10	Not limited	
M-W: Water, miscellaneous	100	Not rated		Not rated		Not rated	
U1A: Urban land-----	80	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated		Not rated	
U2A: Udorthents, wet substratum-----	100	Not rated		Not rated		Not rated	
U3B: Udorthents (cut and fill land)-----	100	Not rated		Not rated		Not rated	
U4A: Urban land-----	70	Not rated		Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated		Not rated	
U5A: Urban land-----	65	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated		Not rated	
U6B: Urban land-----	75	Not rated		Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 15a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D1B:					
Anoka, terrace-----	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.36
Zimmerman, terrace--	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.28
		Thickest layer	0.00	Bottom layer	0.36
Kost-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82
D1C:					
Anoka, terrace-----	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.36
Zimmerman, terrace--	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.28
		Thickest layer	0.00	Bottom layer	0.36
Kost-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82
D2A:					
Elkriver, rarely flooded-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
Mosford, rarely flooded-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.79
Elkriver, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
D3A:					
Elkriver, occasionally flooded-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D3A: Fordum, frequently flooded-----	15	Fair		Fair	
		Bottom layer	0.16	Thickest layer	0.02
		Thickest layer	0.16	Bottom layer	0.86
Winterfield, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.86
		Thickest layer	0.00	Thickest layer	0.86
D4A: Dorset-----	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.08	Bottom layer	0.58
Verndale, acid substratum-----	8	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Almora-----	2	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.16	Bottom layer	0.58
D4B: Dorset-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.08	Bottom layer	0.58
Verndale, acid substratum-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Almora-----	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.16	Bottom layer	0.58
D4C: Dorset-----	75	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.58
Verndale, acid substratum-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Almora-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.16	Bottom layer	0.58
D5B: Dorset-----	65	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.58

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D5B:					
Two Inlets-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.11
		Bottom layer	0.08	Bottom layer	0.91
Verndale, acid substratum-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Southhaven-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
D5C:					
Dorset-----	55	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.58
Two Inlets-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.11
		Bottom layer	0.08	Bottom layer	0.91
Southhaven-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
Verndale, acid substratum-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
D5D:					
Dorset-----	50	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.86
Two Inlets-----	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.11
		Bottom layer	0.08	Bottom layer	0.91
Southhaven-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
Verndale, acid substratum-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
D6A:					
Verndale, acid substratum-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Dorset-----	7	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.08	Bottom layer	0.58



Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D6A: Hubbard-----	3	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
D6B: Verndale, acid substratum-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Dorset-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.08	Bottom layer	0.58
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
D6C: Verndale, acid substratum-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Dorset-----	15	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.58
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.50
		Thickest layer	0.00	Bottom layer	0.58
D7A: Hubbard-----	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
Mosford-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.69
		Thickest layer	0.00	Bottom layer	0.79
D7B: Hubbard-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
Mosford-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.69
		Thickest layer	0.00	Bottom layer	0.79
D7C: Hubbard-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.50
		Thickest layer	0.00	Bottom layer	0.58
Sandberg-----	10	Fair		Fair	
		Thickest layer	0.01	Thickest layer	0.50
		Bottom layer	0.08	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D7C: Mosford-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.69
		Thickest layer	0.00	Bottom layer	0.79
D8B: Sandberg-----	95	Fair		Fair	
		Thickest layer	0.01	Thickest layer	0.50
		Bottom layer	0.08	Bottom layer	0.86
Arvilla, MAP >25----	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.12	Bottom layer	0.53
D8C: Sandberg-----	80	Fair		Fair	
		Thickest layer	0.01	Thickest layer	0.50
		Bottom layer	0.08	Bottom layer	0.86
Corliss-----	15	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.58
		Bottom layer	0.04	Thickest layer	0.58
Southhaven-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
D8D: Sandberg-----	80	Fair		Fair	
		Thickest layer	0.01	Thickest layer	0.50
		Bottom layer	0.08	Bottom layer	0.58
Corliss-----	10	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.58
		Bottom layer	0.04	Thickest layer	0.58
Southhaven-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
D8E: Sandberg-----	80	Fair		Fair	
		Thickest layer	0.01	Thickest layer	0.50
		Bottom layer	0.08	Bottom layer	0.58
Corliss-----	10	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.58
		Bottom layer	0.04	Thickest layer	0.58
Southhaven-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
D10A: Forada-----	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
Depressional soil---	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D11A:					
Lindaas-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lindaas, sandy substratum-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Depressional soil---	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
D12B:					
Bygland, MAP >25----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bygland, sandy substratum-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Lindaas-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Depressional soil---	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
D12C2:					
Bygland, MAP >25----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bygland, sandy substratum-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Lindaas-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Depressional soil---	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
D13A:					
Langola, terrace----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.08
Duelm-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D13B:					
Langola, terrace----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.08
Hubbard-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
Duelm-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
D15A:					
Seelyeville, drained	65	Not rated		Not rated	
Markey, drained----	25	Not rated		Not rated	
Mineral soil, drained-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.66
D16A:					
Seelyeville, ponded	45	Not rated		Not rated	
Markey, ponded-----	45	Not rated		Not rated	
Mineral soil, ponded	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
D17A:					
Duelm-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
Isan-----	8	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
Hubbard-----	2	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
D18B:					
Braham, terrace----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Duelm-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
D19A:					
Fordum, frequently flooded-----	65	Fair		Fair	
		Bottom layer	0.16	Thickest layer	0.02
		Thickest layer	0.16	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D19A: Winterfield, frequently flooded	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.86
		Thickest layer	0.00	Thickest layer	0.86
Fordum, occasionally flooded-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
D20A: Isan-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
Isan, depressional--	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
Duelm-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
D21A: Isan, depressional--	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
Isan-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
D23A: Southhaven-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
Dorset-----	5	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.58
Mosford-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.69
		Thickest layer	0.00	Bottom layer	0.79
D24A: Sedgeville, occasionally flooded-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.75
Elkriver, occasionally flooded-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D25A:					
Soderville, terrace	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Forada-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
D26A:					
Foldahl, MAP >25----	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.10
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
Isan-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
D27A:					
Dorset, loamy substratum-----	80	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.08	Thickest layer	0.61
Dorset-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.08	Bottom layer	0.58
Southhaven-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
D28B:					
Urban land-----	75	Not rated		Not rated	
Bygland, MAP >25----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bygland, sandy substratum-----	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
D29B:					
Urban land-----	70	Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.86
		Thickest layer	0.00	Thickest layer	0.86
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D29B: Mosford-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.69
		Thickest layer	0.00	Bottom layer	0.79
D30A: Seelyeville, surface drained-----	45	Not rated		Not rated	
Markey, surface drained-----	45	Not rated		Not rated	
Mineral soil, surface drained----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
D31A: Urban land-----	70	Not rated		Not rated	
Duelm-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
Isan-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.66
D33B: Urban land-----	70	Not rated		Not rated	
Dorset-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.08	Bottom layer	0.58
Verndale, acid substratum-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86
Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
D33C: Urban land-----	70	Not rated		Not rated	
Dorset-----	20	Fair		Fair	
		Bottom layer	0.08	Thickest layer	0.08
		Thickest layer	0.08	Bottom layer	0.58
Verndale, acid substratum-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D33C: Hubbard-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.50
		Thickest layer	0.00	Bottom layer	0.58
D34B: Urban land-----	75	Not rated		Not rated	
Hubbard-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.86
Mosford-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.69
		Thickest layer	0.00	Bottom layer	0.79
D35A: Elkriver, occasionally flooded-----	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.91
Fordum, occasionally flooded-----	20	Fair		Fair	
		Bottom layer	0.16	Thickest layer	0.02
		Thickest layer	0.16	Bottom layer	0.86
Udipsamments-----	5	Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.86
		Thickest layer	0.00	Thickest layer	0.86
D37F: Dorset, bedrock substratum-----	70	Fair		Fair	
		Bottom layer	0.08	Bottom layer	0.58
		Thickest layer	0.08	Thickest layer	0.58
Rock outcrop-----	20	Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.86
		Thickest layer	0.00	Thickest layer	0.86
D40A: Kratka, thick solum	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.31
Duelm-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.66
Foldahl, MAP >25----	10	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.10



Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
D41C:					
Urban land-----	75	Not rated		Not rated	
Waukon-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Braham-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
D43A:					
Gonvick, terrace----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Braham-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GP:					
Pits, gravel-----	80	Not rated		Not rated	
Udipsamments-----	20	Not rated		Not rated	
L2B:					
Malardi-----	65	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Hawick-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.08	Bottom layer	0.58
Rasset-----	5	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
Eden Prairie-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L2C:					
Malardi-----	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Hawick-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.08	Bottom layer	0.58
Tomall-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
Crowfork-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L2D:					
Malardi-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Hawick-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.08	Bottom layer	0.58
Tomall-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
Crowfork-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
L2E:					
Malardi-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Hawick-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.08	Bottom layer	0.58
Tomall-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
L3A:					
Rasset-----	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
Malardi-----	8	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Eden Prairie-----	2	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L3B:					
Rasset-----	80	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
Malardi-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Eden Prairie-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L3C:					
Rasset-----	75	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L3C:					
Malardi-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Tomall-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
Eden Prairie-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L4B:					
Crowfork-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
Eden Prairie-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L4C:					
Crowfork-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
Eden Prairie-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L4D:					
Crowfork-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
Eden Prairie-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L6A:					
Biscay-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Biscay, depressional	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Mayer-----	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.58
L7A:					
Biscay, depressional	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Biscay-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L7A: Mayer-----	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.58
L8A: Darfur-----	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.11
Dassel-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.07
		Thickest layer	0.00	Bottom layer	0.09
L9A: Minnetonka-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Depressional soil---	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L10B: Kasota-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58
Eden Prairie-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
Wet soil in swales--	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
L11B: Grays-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kasota-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58
Crowfork-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
L12A: Muskego, frequently flooded-----	30	Not rated		Not rated	
Blue Earth, frequently flooded	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Houghton, frequently flooded-----	30	Not rated		Not rated	

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L12A: Oshawa, frequently flooded-----	10	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
L13A: Klossner, drained---	80	Not rated		Not rated	
Mineral soil, drained-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Houghton, drained---	5	Not rated		Not rated	
L14A: Houghton, drained---	80	Not rated		Not rated	
Klossner, drained---	10	Not rated		Not rated	
Mineral soil, drained-----	10	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
L15A: Klossner, ponded----	30	Not rated		Not rated	
Okoboji, ponded----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Glencoe, ponded----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Houghton, ponded----	10	Not rated		Not rated	
L16A: Muskego, ponded----	30	Not rated		Not rated	
Blue Earth, ponded--	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Houghton, ponded----	30	Not rated		Not rated	
Klossner, ponded----	10	Not rated		Not rated	
L17B: Angus-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Malardi-----	30	Fair Thickest layer Bottom layer	 0.00 0.05	Fair Thickest layer Bottom layer	 0.13 0.86
Moon-----	10	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L17B: Cordova-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L18A: Shields-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lerdal-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mazaska-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L19B: Moon-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Finchford-----	15	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.10
		Bottom layer	0.00	Bottom layer	0.86
L20B: Fedji, silty substratum-----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.05
Finchford-----	15	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.10
		Bottom layer	0.00	Bottom layer	0.86
L21A: Canisteo-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cordova-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L22C2: Lester, eroded-----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Angus-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L22C2:					
Terril-----	12	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L22D2:					
Lester, eroded----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L22E:					
Lester, morainic----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L22F:					
Lester, morainic----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L23A:					
Cordova-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nessel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L24A:					
Glencoe, depressional-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cordova-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L25A:					
Le Sueur-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cordova-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Angus-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L26A:					
Shorewood-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Minnetonka-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Good Thunder-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L26B:					
Shorewood-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Good Thunder-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Minnetonka-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00



Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L26C2: Shorewood, eroded---	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Minnetonka-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L27A: Suckercreek, frequently flooded	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
Suckercreek, occasionally flooded-----	10	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Hanlon, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
L28A: Suckercreek, occasionally flooded-----	80	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Suckercreek, frequently flooded	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
Hanlon, occasionally flooded-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
L29A: Hanlon, occasionally flooded-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
Suckercreek, occasionally flooded-----	10	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Suckercreek, frequently flooded	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L30A:					
Medo, surface drained-----	65	Not rated		Not rated	
Medo, drained-----	20	Not rated		Not rated	
Mineral soil, drained-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.09
L31A:					
Medo, ponded-----	30	Not rated		Not rated	
Dassel, ponded-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.09
Biscay, ponded-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Houghton, ponded----	5	Not rated		Not rated	
Muskego, ponded-----	5	Not rated		Not rated	
L32D:					
Hawick-----	75	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.08
		Bottom layer	0.08	Thickest layer	0.08
Crowfork-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
Tomall-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
L32F:					
Hawick-----	75	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.08
		Bottom layer	0.08	Thickest layer	0.08
Crowfork-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
Tomall-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
L35A:					
Lerdal-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mazaska-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L35A: Cordova-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Le Sueur-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L36A: Hamel, overwash----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	43	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe-----	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L37B: Angus, morainic-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Angus, eroded-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Le Sueur-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cordova-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L38A: Rushriver, occasionally flooded-----	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Oshawa, frequently flooded-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Minneiska, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L38A: Algansee, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.22
L39A: Minneiska, occasionally flooded-----	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Rushriver, occasionally flooded-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Oshawa, frequently flooded-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Algansee, occasionally flooded-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.22
L40B: Angus-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kilkenny-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lerdal-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mazaska-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L41C2: Lester, eroded-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kilkenny, eroded----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L41C2: Derrynane-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L41D2: Lester, eroded-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kilkenny, eroded----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Derrynane-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L41E: Lester-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kilkenny-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Derrynane-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L41F: Lester-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kilkenny-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L41F:					
Terril-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Derrynane-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L42B:					
Kingsley-----	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Gotham-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
Grays-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L42C:					
Kingsley-----	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Gotham-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
Grays-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L42D:					
Kingsley-----	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Gotham-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
Grays-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L42E:					
Kingsley-----	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Gotham-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
Grays-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L42F:					
Kingsley-----	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Gotham-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
Grays-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L43A:					
Brouillett, occasionally flooded-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Minneiska, occasionally flooded-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Rushriver, occasionally flooded-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
L44A:					
Nessel-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cordova-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Angus-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L45A:					
Dundas-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cordova-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nessel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L46A:					
Tomall-----	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
Rasset-----	10	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
Malardi-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
L47A:					
Eden Prairie-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
Malardi-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Rasset-----	5	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
L47B:					
Eden Prairie-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
Malardi-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Rasset-----	10	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
L47C:					
Eden Prairie-----	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
Malardi-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Rasset-----	10	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
Hawick-----	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.08	Bottom layer	0.58
L49A:					
Klossner, surface drained-----	65	Not rated		Not rated	
Klossner, drained---	20	Not rated		Not rated	



Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L49A: Mineral soil, drained-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L50A: Houghton, surface drained-----	40	Not rated		Not rated	
Muskego, surface drained-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klossner, drained---	10	Not rated		Not rated	
Mineral soil, drained-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L52C: Urban land-----	75	Not rated		Not rated	
Lester-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley-----	5	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
L52E: Urban land-----	75	Not rated		Not rated	
Lester-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley-----	5	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
L53B: Urban land-----	70	Not rated		Not rated	
Moon-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lester-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L54A: Urban land-----	70	Not rated		Not rated	
Dundas-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L54A:					
Nessel-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L55B:					
Urban land-----	70	Not rated		Not rated	
Malardi-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Rasset-----	5	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.86
Eden Prairie-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.86
L55C:					
Urban land-----	70	Not rated		Not rated	
Malardi-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86
Hawick-----	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.08	Bottom layer	0.58
Crowfork-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
L56A:					
Muskego, frequently flooded-----	45	Not rated		Not rated	
Klossner, frequently flooded-----	45	Not rated		Not rated	
Suckercreek, frequently flooded	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
L58B:					
Koronis-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Forestcity-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L58B: Gotham-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
L58C2: Koronis, eroded----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley, eroded----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Forestcity-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Gotham-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
L58D2: Koronis, eroded----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley, eroded----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Forestcity-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Gotham-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
L58E: Koronis-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Forestcity-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Gotham-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.64
		Thickest layer	0.00	Bottom layer	0.86
L59A: Forestcity-----	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L59A: Lundlake, depressional-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Marcellon-----	5	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
L60B: Angus-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Moon-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hamel-----	5	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
L61C2: Lester, eroded-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Metea, eroded-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Terril-----	12	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hamel-----	3	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
L61D2: Lester, eroded-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Metea, eroded-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Terril-----	12	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ridgeton-----	5	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hamel-----	3	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L61E:					
Lester-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Metea-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L62B:					
Koronis-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Malardi-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Forestcity-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
L62C2:					
Koronis, eroded----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley, eroded----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Malardi, eroded----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Forestcity-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
L62D2:					
Koronis, eroded----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L62D2:					
Kingsley, eroded----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Malardi, eroded-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Forestcity-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
L62E:					
Koronis-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingsley-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.04
Malardi-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Forestcity-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
L64A:					
Tadkee-----	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.79
Tadkee, depressional	36	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.79
Better drained soil	8	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08
Granby-----	4	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.07
Less sandy soil-----	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L70C2:					
Lester, eroded-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Malardi, eroded-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.13
		Bottom layer	0.05	Bottom layer	0.86

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L70C2:					
Terril-----	12	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L70D2:					
Lester, eroded-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Malardi, eroded-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Terril-----	12	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L70E:					
Lester-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Malardi-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.05	Bottom layer	0.86
Terril-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L71C:					
Metea-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lester-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L71C: Moon-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L72A: Lundlake, depressional-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Forestcity-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
L110E: Lester-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cokato-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Belview-----	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel-----	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L110F: Lester-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cokato-----	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Belview-----	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00



Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L110F: Hamel-----	1	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L131A: Litchfield-----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.07
Darfur-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.11
Crowfork-----	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.91
L132A: Hamel-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamel, overwash-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril-----	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
M-W: Water, miscellaneous	100	Not rated		Not rated	
U1A: Urban land-----	80	Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated	
U2A: Udorthents, wet substratum-----	100	Not rated		Not rated	
U3B: Udorthents (cut and fill land)-----	100	Not rated		Not rated	
U4A: Urban land-----	70	Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated	

Table 15a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
U5A:					
Urban land-----	65	Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated	
U6B:					
Urban land-----	75	Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated	
W:					
Water-----	100	Not rated		Not rated	

Table 15b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D1B:							
Anoka, terrace-----	55	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.12				
		Too acid	0.68				
Zimmerman, terrace--	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.12				
		Droughty	0.71				
		Too acid	0.84				
Kost-----	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.12				
		Droughty	0.54				
		Too acid	0.97				
D1C:							
Anoka, terrace-----	45	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.96
		Low content of organic matter	0.12				
		Too acid	0.68				
Zimmerman, terrace--	45	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.12				
		Droughty	0.71				
		Too acid	0.84				
Kost-----	10	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.12				
		Droughty	0.54				
		Too acid	0.97				
D2A:							
Elkriver, rarely flooded-----	85	Fair		Good		Good	
		Low content of organic matter	0.05				
		Too acid	0.61				

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D2A: Mosford, rarely flooded-----	10	Poor Too sandy Low content of organic matter Too acid	0.00 0.12 0.97	Good		Poor Too sandy	0.00
Elkriver, occasionally flooded-----	5	Fair Low content of organic matter Too acid	0.05 0.61	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone	0.14
D3A: Elkriver, occasionally flooded-----	80	Fair Low content of organic matter Too acid	0.05 0.61	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone	0.14
Fordum, frequently flooded-----	15	Fair Low content of organic matter Too acid	0.50 0.92	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments Hard to reclaim	0.00 0.00 0.50
Winterfield, occasionally flooded-----	5	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.95	Fair Depth to saturated zone	0.14	Poor Too sandy Depth to saturated zone Rock fragments	0.00 0.14 0.88
D4A: Dorset-----	90	Poor Too sandy Low content of organic matter Droughty Too acid	0.00 0.12 0.56 0.92	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.50
Verndale, acid substratum-----	8	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
Almora-----	2	Fair Low content of organic matter Too acid Carbonate content	0.12 0.95 0.97	Good		Fair Rock fragments Hard to reclaim	0.41 0.61

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D4B:							
Dorset-----	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.56			Hard to reclaim	0.50
		Too acid	0.92				
Verndale, acid substratum-----	10	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.97
		Too acid	0.68				
		Droughty	0.98				
Almora-----	5	Fair		Good		Fair	
		Low content of organic matter	0.12			Rock fragments	0.41
		Too acid	0.95			Hard to reclaim	0.61
		Carbonate content	0.97				
D4C:							
Dorset-----	75	Fair		Good		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too sandy	0.30			Too sandy	0.30
		Droughty	0.91			Hard to reclaim	0.50
		Too acid	0.92				
Verndale, acid substratum-----	15	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.97
		Too acid	0.68				
		Droughty	0.98				
Almora-----	10	Fair		Good		Fair	
		Low content of organic matter	0.12			Rock fragments	0.41
		Too acid	0.95			Hard to reclaim	0.61
		Carbonate content	0.97				
D5B:							
Dorset-----	65	Fair		Good		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too sandy	0.30			Too sandy	0.30
		Droughty	0.91			Hard to reclaim	0.50
		Too acid	0.92				
Two Inlets-----	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim	0.50
		Droughty	0.17			Carbonate content	0.97
		Too acid	0.95				
		Carbonate content	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5B: Verndale, acid substratum-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
Southhaven-----	5	Fair Too acid	0.97	Good		Good	
D5C: Dorset-----	55	Fair Low content of organic matter Too sandy Droughty Too acid	0.12 0.30 0.91 0.92	Good		Poor Rock fragments Too sandy Hard to reclaim	0.00 0.30 0.50
Two Inlets-----	30	Poor Too sandy Wind erosion Low content of organic matter Droughty Too acid Carbonate content	0.00 0.00 0.12 0.17 0.95 0.97	Good		Poor Too sandy Rock fragments Hard to reclaim Slope Carbonate content	0.00 0.00 0.50 0.96 0.97
Southhaven-----	10	Fair Too acid	0.97	Good		Good	
Verndale, acid substratum-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
D5D: Dorset-----	50	Poor Too sandy Low content of organic matter Droughty Too acid	0.00 0.12 0.62 0.92	Good		Poor Too sandy Rock fragments Slope Hard to reclaim	0.00 0.00 0.16 0.50
Two Inlets-----	35	Poor Too sandy Wind erosion Low content of organic matter Droughty Too acid Carbonate content	0.00 0.00 0.12 0.17 0.95 0.97	Good		Poor Too sandy Rock fragments Slope Hard to reclaim Carbonate content	0.00 0.00 0.00 0.50 0.97
Southhaven-----	10	Fair Too acid	0.97	Good		Good	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5D: Verndale, acid substratum-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
D6A: Verndale, acid substratum-----	90	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
Dorset-----	7	Poor Too sandy Low content of organic matter Droughty Too acid	0.00 0.12 0.56 0.92	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.50
Hubbard-----	3	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.81 0.92	Good		Fair Too sandy	0.01
D6B: Verndale, acid substratum-----	85	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
Dorset-----	10	Poor Too sandy Low content of organic matter Droughty Too acid	0.00 0.12 0.56 0.92	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.50
Hubbard-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.77 0.92	Good		Fair Too sandy	0.01

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D6C: Verndale, acid substratum-----	80	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.68 0.98	Good		Poor Too sandy Rock fragments	0.00 0.97
Dorset-----	15	Fair Low content of organic matter Too sandy Droughty Too acid	0.12 0.30 0.91 0.92	Good		Poor Rock fragments Too sandy Hard to reclaim	0.00 0.30 0.50
Hubbard-----	5	Poor Too sandy Wind erosion Low content of organic matter Droughty Too acid	0.00 0.00 0.12 0.60 0.92	Good		Poor Too sandy	0.00
D7A: Hubbard-----	95	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.81 0.92	Good		Fair Too sandy	0.01
Mosford-----	5	Poor Too sandy Low content of organic matter Too acid	0.00 0.12 0.97	Good		Poor Too sandy	0.00
D7B: Hubbard-----	90	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.77 0.92	Good		Fair Too sandy	0.01
Mosford-----	10	Poor Too sandy Low content of organic matter Too acid	0.00 0.12 0.97	Good		Poor Too sandy	0.00



Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D7C:							
Hubbard-----	80	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.12				
		Droughty	0.60				
		Too acid	0.92				
Sandberg-----	10	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.03
		Low content of organic matter	0.12			Slope	0.84
		Droughty	0.68			Hard to reclaim	0.92
		Too acid	0.92				
Mosford-----	10	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12				
		Too acid	0.97				
D8B:							
Sandberg-----	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.03
		Low content of organic matter	0.12			Hard to reclaim	0.92
		Droughty	0.68				
		Too acid	0.92				
Arvilla, MAP >25----	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.75			Hard to reclaim	0.50
		Too acid	0.95				
D8C:							
Sandberg-----	80	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.03
		Low content of organic matter	0.12			Hard to reclaim	0.92
		Droughty	0.68			Slope	0.96
		Too acid	0.92				
Corliss-----	15	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim	0.82
		Droughty	0.43			Slope	0.96
Southhaven-----	5	Fair		Good		Good	
		Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D8D:							
Sandberg-----	80	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Rock fragments	0.03
		Low content of organic matter	0.12			Slope	0.04
		Droughty	0.52			Hard to reclaim	0.92
		Too acid	0.92				
Corliss-----	10	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.98	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.43			Hard to reclaim	0.82
Southhaven-----	10	Fair		Good		Good	
		Too acid	0.97				
D8E:							
Sandberg-----	80	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.03
		Droughty	0.52			Hard to reclaim	0.92
		Too acid	0.92				
Corliss-----	10	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.43			Hard to reclaim	0.82
Southhaven-----	10	Fair		Good		Good	
		Too acid	0.97				
D10A:							
Forada-----	95	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too acid	0.97				
Depressional soil---	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too acid	0.97				
D11A:							
Lindaas-----	80	Fair		Poor		Poor	
		Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.66		
Lindaas, sandy substratum-----	10	Fair		Poor		Poor	
		Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.81		

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D11A: Depressional soil---	10	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.79	Poor Depth to saturated zone	0.00
D12B: Bygland, MAP >25----	70	Poor Too clayey Low content of organic matter Water erosion Too acid	0.00 0.12 0.90 0.97	Fair Shrink-swell	0.71	Poor Too clayey	0.00
Bygland, sandy substratum-----	15	Fair Low content of organic matter Water erosion Too acid	0.12 0.90 0.97	Fair Shrink-swell Depth to saturated zone	0.72 0.80	Fair Depth to saturated zone	0.80
Lindaas-----	10	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.66	Poor Depth to saturated zone	0.00
Depressional soil---	5	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.79	Poor Depth to saturated zone	0.00
D12C2: Bygland, MAP >25----	70	Fair Low content of organic matter Water erosion Too acid	0.12 0.90 0.97	Fair Shrink-swell	0.75	Good	
Bygland, sandy substratum-----	15	Fair Low content of organic matter Water erosion Too acid	0.12 0.90 0.97	Fair Shrink-swell Depth to saturated zone	0.72 0.80	Fair Depth to saturated zone	0.80
Lindaas-----	10	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.66	Poor Depth to saturated zone	0.00
Depressional soil---	5	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.79	Poor Depth to saturated zone	0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D13A: Langola, terrace----	85	Poor Wind erosion Low content of organic matter Too sandy Too acid Droughty	 0.00 0.12 0.30 0.97 0.99	Fair Depth to saturated zone	 0.53	Fair Too sandy Depth to saturated zone Hard to reclaim	 0.30 0.53 0.99
Duelm-----	10	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	 0.89	Poor Too sandy Depth to saturated zone	 0.00 0.89
Hubbard-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.01 0.12 0.81 0.92	Good		Fair Too sandy	 0.01
D13B: Langola, terrace----	85	Poor Wind erosion Low content of organic matter Too sandy Too acid Droughty	 0.00 0.12 0.30 0.97 0.99	Fair Depth to saturated zone	 0.89	Fair Too sandy Depth to saturated zone Hard to reclaim	 0.30 0.89 0.99
Hubbard-----	10	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.01 0.12 0.77 0.92	Good		Fair Too sandy	 0.01
Duelm-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	 0.89	Poor Too sandy Depth to saturated zone	 0.00 0.89
D15A: Seelyeville, drained	65	Not rated		Poor Depth to saturated zone	 0.00	Not rated	
Markey, drained----	25	Not rated		Poor Depth to saturated zone	 0.00	Not rated	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material	Potential as source of roadfill		Potential as source of topsoil		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D15A: Mineral soil, drained-----	10	Fair Low content of organic matter Droughty	0.12 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
D16A: Seelyeville, ponded	45	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Markey, ponded-----	45	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, ponded	10	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
D17A: Duelm-----	90	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	0.00 0.89
Isan-----	8	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
Hubbard-----	2	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.77 0.92	Good		Fair Too sandy	0.01
D18B: Braham, terrace-----	85	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	0.89 0.98	Fair Too sandy Depth to saturated zone	0.36 0.89
Duelm-----	15	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	0.00 0.89

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D19A: Fordum, frequently flooded-----	65	Fair Low content of organic matter Too acid	0.50 0.92	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments Hard to reclaim	0.00 0.00 0.50
Winterfield, frequently flooded	25	Poor Too sandy Low content of organic matter Too acid	0.00 0.12 0.95	Fair Depth to saturated zone	0.14	Poor Too sandy Depth to saturated zone Rock fragments	0.00 0.14 0.88
Fordum, occasionally flooded-----	10	Fair Low content of organic matter Too acid	0.88 0.92	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments	0.00 0.97
D20A: Isan-----	85	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
Isan, depression--	10	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
Duelm-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	0.00 0.89
D21A: Isan, depression--	85	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
Isan-----	15	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
D23A: Southhaven-----	90	Fair Too acid	0.97	Good		Good	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D23A: Dorset-----	5	Fair Low content of organic matter Too sandy Droughty Too acid	 0.12 0.30 0.91 0.92	Good		Poor Rock fragments Too sandy Hard to reclaim	 0.00 0.30 0.50
Mosford-----	5	Poor Too sandy Low content of organic matter Too acid	 0.00 0.12 0.97	Good		Poor Too sandy	 0.00
D24A: Sedgeville, occasionally flooded-----	85	Fair Low content of organic matter	 0.50	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments	 0.00 0.97
Elkriver, occasionally flooded-----	15	Fair Low content of organic matter Too acid	 0.05 0.61	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone	 0.14
D25A: Soderville, terrace	90	Poor Wind erosion Low content of organic matter Too sandy Droughty Too acid	 0.00 0.12 0.14 0.80 0.84	Fair Depth to saturated zone	0.53	Fair Too sandy Depth to saturated zone	 0.14 0.53
Forada-----	10	Fair Low content of organic matter Too acid	 0.12 0.97	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	 0.00
D26A: Foldahl, MAP >25----	90	Poor Wind erosion Too sandy Low content of organic matter Too acid	 0.00 0.00 0.12 0.95	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	 0.00 0.89
Hubbard-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.01 0.12 0.81 0.92	Good		Fair Too sandy	 0.01

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D26A: Isan-----	5	Fair Low content of organic matter Too sandy Droughty	 0.12 0.30 0.99	Poor Depth to saturated zone	 0.00	Poor Depth to saturated zone Too sandy	 0.00 0.30
D27A: Dorset, loamy substratum-----	80	Poor Too sandy Low content of organic matter Too acid	 0.00 0.12 0.92	Good		Poor Too sandy Rock fragments Hard to reclaim	 0.00 0.00 0.50
Dorset-----	15	Poor Too sandy Low content of organic matter Droughty Too acid	 0.00 0.12 0.56 0.92	Good		Poor Too sandy Rock fragments Hard to reclaim	 0.00 0.00 0.50
Southhaven-----	5	Fair Too acid	 0.97	Good		Good	
D28B: Urban land-----	75	Not rated		Not rated		Not rated	
Bygland, MAP >25----	20	Poor Too clayey Low content of organic matter Water erosion Too acid	 0.00 0.12 0.90 0.97	Fair Shrink-swell	 0.71	Poor Too clayey	 0.00
Bygland, sandy substratum-----	5	Fair Low content of organic matter Water erosion Too acid	 0.12 0.90 0.97	Fair Shrink-swell Depth to saturated zone	 0.72 0.80	Fair Depth to saturated zone	 0.80
D29B: Urban land-----	70	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.01 0.12 0.20 0.92	Good		Fair Too sandy	 0.01
Hubbard-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	 0.00 0.01 0.12 0.77 0.92	Good		Fair Too sandy	 0.01



Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material	Potential as source of roadfill		Potential as source of topsoil		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D29B: Mosford-----	5	Poor Too sandy Low content of organic matter Too acid	0.00 0.12 0.97	Good		Poor Too sandy	0.00
D30A: Seelyeville, surface drained-----	45	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Markey, surface drained-----	45	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, surface drained----	10	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
D31A: Urban land-----	70	Not rated		Not rated		Not rated	
Duelm-----	20	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	0.00 0.89
Hubbard-----	5	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.77 0.92	Good		Fair Too sandy	0.01
Isan-----	5	Fair Low content of organic matter Too sandy Droughty	0.12 0.30 0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.30
D33B: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Poor Too sandy Low content of organic matter Droughty Too acid	0.00 0.12 0.56 0.92	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.50

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D33B:							
Verndale, acid substratum-----	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.97
		Too acid	0.68				
		Droughty	0.98				
Hubbard-----	5	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.01
		Too sandy	0.01				
		Low content of organic matter	0.12				
		Droughty	0.81				
		Too acid	0.92				
D33C:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Fair		Good		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too sandy	0.30			Too sandy	0.30
		Droughty	0.91			Hard to reclaim	0.50
		Too acid	0.92			Slope	0.84
Verndale, acid substratum-----	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.97
		Too acid	0.68				
		Droughty	0.98				
Hubbard-----	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.37
		Low content of organic matter	0.12				
		Droughty	0.60				
		Too acid	0.92				
D34B:							
Urban land-----	75	Not rated		Not rated		Not rated	
Hubbard-----	20	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.01
		Too sandy	0.01				
		Low content of organic matter	0.12				
		Droughty	0.77				
		Too acid	0.92				
Mosford-----	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12				
		Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D35A: Elkriver, occasionally flooded-----	70	Fair Low content of organic matter Too acid	0.05 0.61	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone	0.14
Fordum, occasionally flooded-----	20	Fair Low content of organic matter Too acid	0.50 0.92	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments Hard to reclaim	0.00 0.00 0.50
Udipsamments-----	5	Not rated		Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.95	Fair Depth to saturated zone	0.14	Poor Too sandy Depth to saturated zone Rock fragments	0.00 0.14 0.88
D37F: Dorset, bedrock substratum-----	70	Poor Too sandy Low content of organic matter Droughty Too acid	0.00 0.12 0.56 0.92	Poor Slope	0.00	Poor Slope Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.01 0.12 0.20 0.92	Poor Slope	0.00	Poor Slope Too sandy	0.00 0.01
D40A: Kratka, thick solum	80	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.92	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Too sandy Depth to saturated zone	0.00 0.00
Duelm-----	10	Poor Wind erosion Too sandy Low content of organic matter Droughty Too acid	0.00 0.00 0.12 0.93 0.97	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	0.00 0.89

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D40A: Foldahl, MAP >25----	10	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.00 0.12 0.95	Fair Depth to saturated zone	0.89	Poor Too sandy Depth to saturated zone	0.00 0.89
D41C: Urban land-----	75	Not rated		Not rated		Not rated	
Waukon-----	20	Fair Low content of organic matter	0.12	Fair Shrink-swell	0.98	Good	
Braham-----	5	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	0.89 0.98	Fair Too sandy Depth to saturated zone	0.36 0.89
D43A: Gonvick, terrace----	85	Fair Low content of organic matter Carbonate content	0.12 0.97	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone	0.14
Braham-----	15	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	0.89 0.98	Fair Too sandy Depth to saturated zone	0.36 0.89
GP: Pits, gravel-----	80	Not rated		Not rated		Not rated	
Udipsammments-----	20	Not rated		Not rated		Not rated	
L2B: Malardi-----	65	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92
Hawick-----	25	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.26	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.68
Rasset-----	5	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L2B: Eden Prairie-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	 0.00 0.12  0.92 0.99	Good		Poor Too sandy	 0.00
L2C: Malardi-----	60	Fair Too sandy Low content of organic matter Droughty	 0.03 0.12  0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	 0.03 0.28 0.92
Hawick-----	25	Poor Too sandy Low content of organic matter Droughty	 0.00 0.12  0.26	Good		Poor Too sandy Rock fragments Hard to reclaim Slope	 0.00 0.00 0.68 0.84
Tomall-----	10	Good		Good		Fair Hard to reclaim	 0.92
Crowfork-----	5	Poor Wind erosion Too sandy Low content of organic matter Too acid	 0.00 0.10 0.12  0.84	Good		Fair Too sandy Rock fragments	 0.10 0.97
L2D: Malardi-----	55	Poor Too sandy Low content of organic matter Droughty	 0.00 0.12  0.48	Good		Poor Too sandy Rock fragments Slope Hard to reclaim	 0.00 0.00 0.16 0.92
Hawick-----	30	Poor Too sandy Low content of organic matter Droughty	 0.00 0.12  0.26	Good		Poor Too sandy Slope Rock fragments Hard to reclaim	 0.00 0.00 0.00 0.68
Tomall-----	10	Good		Good		Fair Hard to reclaim	 0.92
Crowfork-----	5	Poor Wind erosion Too sandy Low content of organic matter Too acid	 0.00 0.10 0.12  0.84	Good		Fair Too sandy Slope Rock fragments	 0.10 0.16 0.97
L2E: Malardi-----	55	Poor Too sandy Low content of organic matter Droughty	 0.00 0.12  0.48	Poor Slope	0.00	Poor Slope Too sandy Rock fragments Hard to reclaim	 0.00 0.00 0.00 0.92

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material	Potential as source of roadfill	Potential as source of topsoil			
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L2E: Hawick-----	30	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.26	Poor Slope	0.00	Poor Slope Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.00 0.68
Tomall-----	15	Good		Good		Fair Hard to reclaim	0.92
L3A: Rasset-----	90	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97
Malardi-----	8	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92
Eden Prairie-----	2	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
L3B: Rasset-----	80	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97
Malardi-----	15	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92
Eden Prairie-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
L3C: Rasset-----	75	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97
Malardi-----	10	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material	Potential as source of roadfill		Potential as source of topsoil		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L3C: Tomall-----	10	Good		Good		Fair Hard to reclaim	0.92
Eden Prairie-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
L4B: Crowfork-----	90	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.10 0.12 0.84	Good		Fair Too sandy Rock fragments	0.10 0.97
Eden Prairie-----	10	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
L4C: Crowfork-----	90	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.10 0.12 0.84	Good		Fair Too sandy Rock fragments	0.10 0.97
Eden Prairie-----	10	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
L4D: Crowfork-----	85	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.10 0.12 0.84	Good		Poor Slope Too sandy Rock fragments	0.00 0.10 0.97
Eden Prairie-----	15	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L6A:							
Biscay-----	85	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim	0.00 0.68
Biscay, depressional	10	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim	0.00 0.68
Mayer-----	5	Fair Low content of organic matter Carbonate content	0.12 0.84	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim Carbonate content	0.00 0.68 0.84
L7A:							
Biscay, depressional	80	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim	0.00 0.68
Biscay-----	15	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim	0.00 0.68
Mayer-----	5	Fair Low content of organic matter Carbonate content	0.12 0.84	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim Carbonate content	0.00 0.68 0.84
L8A:							
Darfur-----	95	Fair Low content of organic matter Too acid	0.12 0.97	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Dassel-----	5	Fair Low content of organic matter Too acid	0.12 0.97	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L9A:							
Minnetonka-----	90	Poor Low content of organic matter Too clayey Too acid	0.00 0.00 0.97	Poor Depth to saturated zone Shrink-swell	0.00 0.55	Poor Depth to saturated zone Too clayey	0.00 0.00
Depressional soil---	10	Poor Too clayey Low content of organic matter Too acid	0.00 0.50 0.97	Poor Depth to saturated zone Shrink-swell	0.00 0.47	Poor Depth to saturated zone Too clayey	0.00 0.00



Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L10B: Kasota-----	80	Poor Too clayey Low content of organic matter Too acid	0.00 0.02 0.92	Fair Shrink-swell	0.97	Poor Too clayey	0.00
Eden Prairie-----	10	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
Wet soil in swales--	10	Poor Low content of organic matter Too clayey Too acid	0.00 0.00 0.97	Poor Depth to saturated zone Shrink-swell	0.00 0.55	Poor Depth to saturated zone Too clayey	0.00 0.00
L11B: Grays-----	90	Fair Low content of organic matter Water erosion Too acid	0.08 0.90 0.95	Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
Kasota-----	5	Poor Too clayey Low content of organic matter Too acid	0.00 0.02 0.92	Fair Shrink-swell	0.97	Poor Too clayey	0.00
Crowfork-----	5	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.10 0.12 0.84	Good		Fair Too sandy Rock fragments	0.10 0.97
L12A: Muskego, frequently flooded-----	30	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Blue Earth, frequently flooded	30	Fair Carbonate content	0.80	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone Content of organic matter	0.00 0.94
Houghton, frequently flooded-----	30	Not rated		Not rated		Not rated	
Oshawa, frequently flooded-----	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L13A:							
Klossner, drained---	80	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, drained-----	15	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
Houghton, drained---	5	Not rated		Not rated		Not rated	
L14A:							
Houghton, drained---	80	Not rated		Not rated		Not rated	
Klossner, drained---	10	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, drained-----	10	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
L15A:							
Klossner, ponded----	30	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Okoboji, ponded-----	30	Fair Too clayey Water erosion	0.08 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.12	Poor Depth to saturated zone Too clayey	0.00 0.08
Glencoe, ponded-----	30	Good		Poor Depth to saturated zone Shrink-swell	0.00 0.93	Poor Depth to saturated zone	0.00
Houghton, ponded----	10	Not rated		Not rated		Not rated	
L16A:							
Muskego, ponded-----	30	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Blue Earth, ponded--	30	Fair Carbonate content	0.80	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone Content of organic matter	0.00 0.94
Houghton, ponded----	30	Not rated		Not rated		Not rated	
Klossner, ponded----	10	Not rated		Poor Depth to saturated zone	0.00	Not rated	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L17B: Angus-----	50	Fair Low content of organic matter Too acid Water erosion	 0.12 0.97 0.99	Fair Shrink-swell	 0.99	Good	
Malardi-----	30	Fair Too sandy Low content of organic matter Droughty	 0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	 0.03 0.28 0.92
Moon-----	10	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	 0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	 0.89 0.99	Fair Too sandy Depth to saturated zone	 0.36 0.89
Cordova-----	10	Fair Low content of organic matter Too acid Too clayey	 0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone Too clayey	 0.00 0.94
L18A: Shields-----	85	Poor Too clayey Low content of organic matter Too acid Water erosion	 0.00 0.50 0.92 0.99	Poor Depth to saturated zone Shrink-swell	 0.00 0.12	Poor Too clayey Depth to saturated zone	 0.00 0.00
Lerdal-----	10	Poor Too clayey Low content of organic matter Too acid Water erosion	 0.00 0.50 0.68 0.99	Fair Depth to saturated zone Shrink-swell	 0.22 0.56	Poor Too clayey Depth to saturated zone	 0.00 0.22
Mazaska-----	5	Poor Too clayey Low content of organic matter Too acid Carbonate content	 0.00 0.12 0.68 0.97	Poor Depth to saturated zone Shrink-swell	 0.00 0.56	Poor Depth to saturated zone Too clayey	 0.00 0.00
L19B: Moon-----	85	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	 0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	 0.89 0.99	Fair Too sandy Depth to saturated zone	 0.36 0.89

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L19B: Finchford-----	15	Poor Wind erosion Too sandy Droughty Low content of organic matter	 0.00 0.01 0.06 0.12	Good		Fair Too sandy Rock fragments Hard to reclaim	 0.01 0.88 0.98
L20B: Fedji, silty substratum-----	85	Poor Too sandy Wind erosion Low content of organic matter Water erosion Too acid	 0.00 0.00 0.12 0.90 0.95	Fair Shrink-swell	 0.99	Poor Too sandy	 0.00
Finchford-----	15	Poor Wind erosion Too sandy Droughty Low content of organic matter	 0.00 0.01 0.06 0.12	Good		Fair Too sandy Rock fragments Hard to reclaim	 0.01 0.88 0.98
L21A: Canisteo-----	80	Fair Low content of organic matter Carbonate content	 0.12 0.92	Poor Depth to saturated zone	 0.00	Poor Depth to saturated zone Carbonate content Rock fragments	 0.00 0.92 0.97
Cordova-----	15	Fair Low content of organic matter Too acid Too clayey	 0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone Too clayey	 0.00 0.94
Glencoe-----	5	Fair Low content of organic matter	 0.12	Poor Depth to saturated zone Shrink-swell	 0.00 0.95	Poor Depth to saturated zone	 0.00
L22C2: Lester, eroded-----	70	Fair Low content of organic matter Too acid Carbonate content	 0.88 0.97 0.97	Fair Shrink-swell	 0.97	Fair Slope	 0.96
Angus-----	15	Fair Low content of organic matter Too acid Water erosion	 0.12 0.97 0.99	Fair Shrink-swell	 0.99	Good	
Terril-----	12	Good		Good		Good	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L22C2: Hamel-----	3	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone	0.00
L22D2: Lester, eroded----	80	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Shrink-swell	0.97	Poor Slope	0.00
Terril-----	10	Good		Good		Good	
Hamel-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone	0.00
Ridgeton-----	5	Good		Good		Fair Slope	0.84
L22E: Lester, morainic----	75	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Slope Shrink-swell	0.18 0.98	Poor Slope	0.00
Terril-----	15	Good		Good		Good	
Hamel-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Ridgeton-----	5	Good		Good		Fair Slope	0.04
L22F: Lester, morainic----	75	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Poor Slope Shrink-swell	0.00 0.98	Poor Slope	0.00
Terril-----	10	Good		Good		Good	
Ridgeton-----	10	Good		Fair Slope	0.50	Poor Slope	0.00
Hamel-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L23A: Cordova-----	85	Fair Low content of organic matter Too acid Too clayey	0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone Too clayey	0.00 0.94

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L23A: Glencoe-----	10	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
Nessel-----	5	Fair Low content of organic matter Too acid	0.12 0.92	Fair Depth to saturated zone Shrink-swell	0.89 0.97	Fair Depth to saturated zone	0.89
L24A: Glencoe, depressional-----	90	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
Cordova-----	10	Fair Low content of organic matter Too acid Too clayey	0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone Too clayey	0.00 0.94
L25A: Le Sueur-----	80	Fair Low content of organic matter Too acid Carbonate content	0.12 0.97 0.97	Fair Depth to saturated zone Shrink-swell	0.12 0.99	Fair Depth to saturated zone	0.12
Cordova-----	15	Fair Low content of organic matter Too acid Too clayey	0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone Too clayey	0.00 0.94
Angus-----	5	Fair Low content of organic matter Too acid Water erosion	0.12 0.97 0.99	Fair Shrink-swell	0.99	Good	
L26A: Shorewood-----	85	Poor Too clayey Too acid	0.00 0.68	Fair Depth to saturated zone Shrink-swell	0.14 0.76	Poor Too clayey Depth to saturated zone	0.00 0.14
Minnetonka-----	10	Poor Low content of organic matter Too clayey Too acid	0.00 0.00 0.97	Poor Depth to saturated zone Shrink-swell	0.00 0.55	Poor Depth to saturated zone Too clayey	0.00 0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L26A: Good Thunder-----	5	Poor Too clayey Low content of organic matter Too acid Water erosion	 0.00 0.50 0.97 0.99	Fair Depth to saturated zone Shrink-swell	 0.88 0.96	Poor Too clayey Depth to saturated zone	 0.00 0.88
L26B: Shorewood-----	90	Poor Too clayey Too acid	 0.00 0.97	Fair Depth to saturated zone Shrink-swell	 0.14 0.76	Poor Too clayey Depth to saturated zone	 0.00 0.14
Good Thunder-----	5	Poor Too clayey Low content of organic matter Too acid Water erosion	 0.00 0.50 0.97 0.99	Fair Depth to saturated zone Shrink-swell	 0.88 0.96	Poor Too clayey Depth to saturated zone	 0.00 0.88
Minnetonka-----	5	Poor Low content of organic matter Too clayey Too acid	 0.00 0.00 0.97	Poor Depth to saturated zone Shrink-swell	 0.00 0.55	Poor Depth to saturated zone Too clayey	 0.00 0.00
L26C2: Shorewood, eroded---	95	Poor Too clayey Too acid	 0.00 0.68	Fair Depth to saturated zone Shrink-swell	 0.14 0.76	Poor Too clayey Depth to saturated zone Slope	 0.00 0.14 0.96
Minnetonka-----	5	Poor Low content of organic matter Too clayey Too acid	 0.00 0.00 0.97	Poor Depth to saturated zone Shrink-swell	 0.00 0.55	Poor Depth to saturated zone Too clayey	 0.00 0.00
L27A: Suckercreek, frequently flooded	85	Good		Poor Depth to saturated zone	 0.00	Poor Depth to saturated zone	 0.00
Suckercreek, occasionally flooded-----	10	Good		Poor Depth to saturated zone	 0.00	Poor Depth to saturated zone	 0.00
Hanlon, occasionally flooded-----	5	Good		Fair Depth to saturated zone	 0.89	Fair Depth to saturated zone	 0.89

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L28A: Suckercreek, occasionally flooded-----	80	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Suckercreek, frequently flooded	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Hanlon, occasionally flooded-----	10	Good		Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
L29A: Hanlon, occasionally flooded-----	80	Good		Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
Suckercreek, occasionally flooded-----	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Suckercreek, frequently flooded	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L30A: Medo, surface drained-----	65	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Medo, drained-----	20	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, drained-----	15	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L31A: Medo, ponded-----	30	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Dassel, ponded-----	30	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00



Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L31A:							
Biscay, ponded-----	30	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim	0.00 0.68
Houghton, ponded----	5	Not rated		Not rated		Not rated	
Muskego, ponded-----	5	Not rated		Poor Depth to saturated zone	0.00	Not rated	
L32D:							
Hawick-----	75	Poor Wind erosion Low content of organic matter Droughty	0.00 0.12 0.29	Fair Slope	0.98	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.68
Crowfork-----	15	Poor Wind erosion Too sandy Low content of organic matter Too acid Droughty	0.00 0.10 0.12 0.92 0.93	Fair Slope	0.98	Poor Slope Too sandy Rock fragments	0.00 0.10 0.97
Tomall-----	10	Good		Good		Fair Hard to reclaim	0.92
L32F:							
Hawick-----	75	Poor Wind erosion Low content of organic matter Droughty	0.00 0.12 0.29	Poor Slope	0.00	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.68
Crowfork-----	15	Poor Wind erosion Too sandy Low content of organic matter Too acid Droughty	0.00 0.10 0.12 0.92 0.93	Poor Slope	0.00	Poor Slope Too sandy Rock fragments	0.00 0.10 0.97
Tomall-----	10	Good		Good		Fair Hard to reclaim	0.92
L35A:							
Lerdal-----	80	Fair Too clayey Low content of organic matter Too acid	0.02 0.50 0.99	Fair Depth to saturated zone Shrink-swell	0.22 0.53	Fair Too clayey Depth to saturated zone	0.01 0.22
Mazaska-----	10	Poor Too clayey Low content of organic matter Too acid Carbonate content	0.00 0.12 0.68 0.97	Poor Depth to saturated zone Shrink-swell	0.00 0.56	Poor Depth to saturated zone Too clayey	0.00 0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L35A: Cordova-----	5	Fair Low content of organic matter Too acid Too clayey	 0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone Too clayey	 0.00 0.94
Le Sueur-----	5	Fair Low content of organic matter Too acid Carbonate content	 0.12 0.97 0.97	Fair Depth to saturated zone Shrink-swell	 0.12 0.99	Fair Depth to saturated zone	 0.12
L36A: Hamel, overwash----	50	Good		Fair Depth to saturated zone	 0.14	Fair Depth to saturated zone	 0.14
Hamel-----	43	Fair Low content of organic matter	 0.12	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone	 0.00
Terril-----	5	Good		Good		Good	
Glencoe-----	2	Fair Low content of organic matter	 0.12	Poor Depth to saturated zone Shrink-swell	 0.00 0.95	Poor Depth to saturated zone	 0.00
L37B: Angus, morainic-----	80	Fair Low content of organic matter Too acid Water erosion	 0.12 0.97 0.99	Fair Shrink-swell	 0.99	Good	
Angus, eroded-----	10	Fair Low content of organic matter Too acid Carbonate content	 0.88 0.97 0.97	Fair Shrink-swell	 0.98	Good	
Le Sueur-----	5	Fair Low content of organic matter Too acid Carbonate content	 0.12 0.97 0.97	Fair Depth to saturated zone Shrink-swell	 0.12 0.99	Fair Depth to saturated zone	 0.12
Cordova-----	5	Fair Low content of organic matter Too acid Too clayey	 0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone Too clayey	 0.00 0.94

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L38A: Rushriver, occasionally flooded-----	75	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments	0.00 0.72
Oshawa, frequently flooded-----	15	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Minneiska, occasionally flooded-----	5	Good		Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
Algansee, occasionally flooded-----	5	Poor Wind erosion Low content of organic matter Too sandy Droughty Too acid	0.00 0.12 0.22 0.80 0.97	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone Too sandy	0.14 0.22
L39A: Minneiska, occasionally flooded-----	70	Good		Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
Rushriver, occasionally flooded-----	15	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments	0.00 0.72
Oshawa, frequently flooded-----	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Algansee, occasionally flooded-----	5	Poor Wind erosion Low content of organic matter Too sandy Droughty Too acid	0.00 0.12 0.22 0.80 0.97	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone Too sandy	0.14 0.22

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L40B: Angus-----	45	Fair Low content of organic matter Too acid Water erosion	 0.12 0.97 0.99	Fair Shrink-swell	 0.99	Good	
Kilkenny-----	40	Fair Too clayey Low content of organic matter Too acid	 0.02 0.12 0.68	Fair Depth to saturated zone Shrink-swell	 0.24 0.98	Fair Too clayey Depth to saturated zone	 0.01 0.24
Lerdal-----	10	Fair Too clayey Low content of organic matter Too acid Carbonate content Water erosion	 0.02 0.12 0.54 0.97 0.99	Fair Depth to saturated zone Shrink-swell	 0.22 0.63	Fair Too clayey Depth to saturated zone Too acid	 0.01 0.22 0.98
Mazaska-----	5	Poor Too clayey Low content of organic matter Too acid Carbonate content	 0.00 0.12 0.68 0.97	Poor Depth to saturated zone Shrink-swell	 0.00 0.56	Poor Depth to saturated zone Too clayey	 0.00 0.00
L41C2: Lester, eroded-----	45	Fair Low content of organic matter Too acid Carbonate content	 0.88 0.97 0.97	Fair Shrink-swell	 0.97	Fair Slope	 0.96
Kilkenny, eroded----	40	Fair Too clayey Low content of organic matter Too acid	 0.02 0.50 0.68	Fair Depth to saturated zone Shrink-swell	 0.89 0.91	Fair Too clayey Depth to saturated zone Slope	 0.01 0.89 0.96
Terril-----	10	Good		Good		Good	
Derrynane-----	5	Poor Too clayey	 0.00	Poor Depth to saturated zone Shrink-swell	 0.00 0.41	Poor Depth to saturated zone Too clayey	 0.00 0.00
L41D2: Lester, eroded-----	45	Fair Low content of organic matter Too acid Carbonate content	 0.88 0.97 0.97	Fair Shrink-swell	 0.97	Poor Slope	 0.00
Kilkenny, eroded----	35	Fair Too clayey Low content of organic matter Too acid	 0.02 0.50 0.68	Fair Depth to saturated zone Shrink-swell	 0.89 0.91	Poor Slope Too clayey Depth to saturated zone	 0.00 0.01 0.89

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41D2: Terril-----	10	Good		Good		Good	
Derrynane-----	5	Poor Too clayey	0.00	Poor Depth to saturated zone Shrink-swell	0.00 0.41	Poor Depth to saturated zone Too clayey	0.00 0.00
Ridgeton-----	5	Good		Good		Fair Slope	0.84
L41E: Lester-----	45	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Slope Shrink-swell	0.18 0.98	Poor Slope	0.00
Kilkenny-----	40	Fair Too clayey Low content of organic matter Too acid	0.02 0.12 0.68	Fair Slope Depth to saturated zone Shrink-swell	0.18 0.89 0.99	Poor Slope Too clayey Depth to saturated zone	0.00 0.01 0.89
Terril-----	5	Good		Good		Good	
Derrynane-----	5	Fair Too clayey	0.82	Poor Depth to saturated zone Shrink-swell	0.00 0.45	Poor Depth to saturated zone Too clayey	0.00 0.82
Ridgeton-----	5	Good		Good		Fair Slope	0.04
L41F: Lester-----	45	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Poor Slope Shrink-swell	0.00 0.98	Poor Slope	0.00
Kilkenny-----	35	Fair Too clayey Low content of organic matter Too acid	0.02 0.12 0.68	Poor Slope Depth to saturated zone Shrink-swell	0.00 0.89 0.99	Poor Slope Too clayey Depth to saturated zone	0.00 0.01 0.89
Ridgeton-----	10	Good		Fair Slope	0.50	Poor Slope	0.00
Terril-----	5	Good		Good		Good	
Derrynane-----	5	Fair Too clayey	0.82	Poor Depth to saturated zone Shrink-swell	0.00 0.45	Poor Depth to saturated zone Too clayey	0.00 0.82

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42B: Kingsley-----	70	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Rock fragments	0.88
Gotham-----	25	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Good		Poor Too sandy Rock fragments	0.00 0.97
Grays-----	5	Fair Low content of organic matter Water erosion Too acid	0.08 0.90 0.95	Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
L42C: Kingsley-----	70	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Rock fragments Slope	0.88 0.96
Gotham-----	25	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Good		Poor Too sandy Slope Rock fragments	0.00 0.96 0.97
Grays-----	5	Fair Low content of organic matter Water erosion Too acid	0.08 0.90 0.95	Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
L42D: Kingsley-----	70	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Slope Rock fragments	0.04 0.88
Gotham-----	25	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Good		Poor Too sandy Slope Rock fragments	0.00 0.04 0.97
Grays-----	5	Fair Low content of organic matter Water erosion Too acid	0.08 0.90 0.95	Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42E: Kingsley-----	70	Fair Low content of organic matter Too acid	0.12 0.92	Fair Slope	0.18	Poor Slope Rock fragments	0.00 0.88
Gotham-----	25	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Fair Slope	0.18	Poor Slope Too sandy Rock fragments	0.00 0.00 0.97
Grays-----	5	Fair Low content of organic matter Water erosion Too acid	0.08 0.90 0.95	Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
L42F: Kingsley-----	70	Fair Low content of organic matter Too acid	0.12 0.92	Poor Slope	0.00	Poor Slope Rock fragments	0.00 0.88
Gotham-----	25	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Poor Slope	0.00	Poor Slope Too sandy Rock fragments	0.00 0.00 0.97
Grays-----	5	Fair Low content of organic matter Water erosion Too acid	0.08 0.90 0.95	Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
L43A: Brouillett, occasionally flooded-----	80	Good		Fair Depth to saturated zone Low strength	0.14 0.22	Fair Depth to saturated zone	0.14
Minneiska, occasionally flooded-----	10	Good		Fair Depth to saturated zone	0.89	Fair Depth to saturated zone	0.89
Rushriver, occasionally flooded-----	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments	0.00 0.72

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L44A: Nessel-----	85	Fair Low content of organic matter Too acid	0.12 0.92	Fair Depth to saturated zone Shrink-swell	0.89 0.97	Fair Depth to saturated zone	0.89
Cordova-----	10	Fair Low content of organic matter Too acid Too clayey	0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone Too clayey	0.00 0.94
Angus-----	5	Fair Low content of organic matter Too acid Water erosion	0.12 0.97 0.99	Fair Shrink-swell	0.99	Good	
L45A: Dundas-----	65	Fair Low content of organic matter Too acid	0.12 0.92	Fair Depth to saturated zone Shrink-swell	0.14 0.99	Fair Depth to saturated zone	0.14
Cordova-----	25	Fair Low content of organic matter Too acid Too clayey	0.12 0.84 0.95	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone Too clayey	0.00 0.94
Nessel-----	5	Fair Low content of organic matter Too acid	0.12 0.92	Fair Depth to saturated zone Shrink-swell	0.89 0.97	Fair Depth to saturated zone	0.89
Glencoe-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
L46A: Tomall-----	80	Good		Good		Fair Hard to reclaim	0.92
Rasset-----	10	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97
Malardi-----	10	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92



Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L47A: Eden Prairie-----	85	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
Malardi-----	10	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92
Rasset-----	5	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97
L47B: Eden Prairie-----	80	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
Malardi-----	10	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92
Rasset-----	10	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97
L47C: Eden Prairie-----	70	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.12 0.92 0.99	Good		Poor Too sandy	0.00
Malardi-----	10	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim	0.03 0.28 0.92
Rasset-----	10	Fair Low content of organic matter Too acid	0.12 0.97	Good		Fair Rock fragments	0.97

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L47C: Hawick-----	10	Poor Too sandy Low content of organic matter Droughty	 0.00 0.12 0.26	Good	   	Poor Too sandy Rock fragments Hard to reclaim Slope	 0.00 0.00 0.68 0.84
L49A: Klossner, surface drained-----	65	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Klossner, drained---	20	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, drained-----	15	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
L50A: Houghton, surface drained-----	40	Not rated		Not rated		Not rated	
Muskego, surface drained-----	40	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Klossner, drained---	10	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Mineral soil, drained-----	10	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
L52C: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Shrink-swell	0.97	Good	
Kingsley-----	5	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Rock fragments	0.88
L52E: Urban land-----	75	Not rated		Not rated		Not rated	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L52E:							
Lester-----	20	Fair		Fair		Poor	
		Low content of organic matter	0.88	Slope	0.50	Slope	0.00
		Too acid	0.97	Shrink-swell	0.98		
		Carbonate content	0.97				
Kingsley-----	5	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.50	Slope	0.00
		Too acid	0.92			Rock fragments	0.88
L53B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Moon-----	20	Poor		Fair		Fair	
		Wind erosion	0.00	Depth to	0.89	Too sandy	0.36
		Low content of organic matter	0.12	saturated zone		Depth to	0.89
		Too sandy	0.36	Shrink-swell	0.99	saturated zone	
		Too acid	0.97				
		Water erosion	0.99				
Lester-----	10	Fair		Fair		Good	
		Low content of organic matter	0.88	Shrink-swell	0.97		
		Too acid	0.97				
		Carbonate content	0.97				
L54A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Dundas-----	20	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to	0.14	Depth to	0.14
		Too acid	0.92	saturated zone		saturated zone	
				Shrink-swell	0.99		
Nessel-----	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to	0.89	Depth to	0.89
		Too acid	0.92	saturated zone		saturated zone	
				Shrink-swell	0.97		
L55B:							
Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Fair		Good		Fair	
		Too sandy	0.03			Too sandy	0.03
		Low content of organic matter	0.12			Rock fragments	0.28
		Droughty	0.75			Hard to reclaim	0.92
Rasset-----	5	Fair		Good		Fair	
		Low content of organic matter	0.12			Rock fragments	0.97
		Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L55B: Eden Prairie-----	5	Poor Too sandy Low content of organic matter Too acid Droughty	 0.00 0.12 0.92 0.99	Good		Poor Too sandy	 0.00
L55C: Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Fair Too sandy Low content of organic matter Droughty	 0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim Slope	 0.03 0.28 0.92 0.96
Hawick-----	5	Poor Too sandy Low content of organic matter Droughty	 0.00 0.12 0.26	Good		Poor Too sandy Rock fragments Hard to reclaim Slope	 0.00 0.00 0.68 0.96
Crowfork-----	5	Poor Wind erosion Too sandy Low content of organic matter Too acid	 0.00 0.10 0.12 0.84	Good		Fair Too sandy Slope Rock fragments	 0.10 0.96 0.97
L56A: Muskego, frequently flooded-----	45	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Klossner, frequently flooded-----	45	Not rated		Poor Depth to saturated zone	0.00	Not rated	
Suckercreek, frequently flooded	10	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L58B: Koronis-----	60	Fair Low content of organic matter	 0.12	Good		Fair Rock fragments	 0.97
Kingsley-----	25	Fair Low content of organic matter Too acid	 0.12 0.92	Good		Fair Rock fragments	 0.88
Forestcity-----	10	Fair Low content of organic matter	 0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	 0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58B: Gotham-----	5	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Good		Poor Too sandy Rock fragments	0.00 0.97
L58C2: Koronis, eroded----	55	Fair Low content of organic matter	0.12	Good		Fair Slope Rock fragments	0.96 0.97
Kingsley, eroded----	25	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Rock fragments Slope	0.88 0.96
Forestcity-----	15	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
Gotham-----	5	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Good		Poor Too sandy Slope Rock fragments	0.00 0.84 0.97
L58D2: Koronis, eroded----	55	Fair Low content of organic matter	0.12	Good		Poor Slope Rock fragments	0.00 0.97
Kingsley, eroded----	25	Fair Low content of organic matter Too acid	0.12 0.92	Good		Poor Slope Rock fragments	0.00 0.88
Forestcity-----	15	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
Gotham-----	5	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Good		Poor Too sandy Slope Rock fragments	0.00 0.00 0.97
L58E: Koronis-----	55	Fair Low content of organic matter	0.12	Fair Slope	0.18	Poor Slope Rock fragments	0.00 0.97
Kingsley-----	25	Fair Low content of organic matter Too acid	0.12 0.92	Fair Slope	0.18	Poor Slope Rock fragments	0.00 0.88

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58E: Forestcity-----	15	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
Gotham-----	5	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.97	Fair Slope	0.18	Poor Slope Too sandy Rock fragments	0.00 0.00 0.97
L59A: Forestcity-----	70	Good		Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
Lundlake, depressional-----	25	Good		Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
Marcellon-----	5	Fair Low content of organic matter Too acid	0.12 0.92	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone Rock fragments Hard to reclaim	0.14 0.88 0.98
L60B: Angus-----	65	Fair Low content of organic matter Too acid Water erosion	0.12 0.97 0.99	Fair Shrink-swell	0.99	Good	
Moon-----	30	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	0.89 0.99	Fair Too sandy Depth to saturated zone	0.36 0.89
Hamel-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone	0.00
L61C2: Lester, eroded-----	60	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Shrink-swell	0.97	Fair Slope	0.96

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61C2: Metea, eroded-----	25	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	 0.00 0.12 0.36 0.97 0.99	Fair Shrink-swell	 0.99	Fair Too sandy Slope	 0.36 0.96
Terril-----	12	Good		Good		Good	
Hamel-----	3	Fair Low content of organic matter	 0.12	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone	 0.00
L61D2: Lester, eroded-----	55	Fair Low content of organic matter Too acid Carbonate content	 0.88 0.97 0.97	Fair Shrink-swell	 0.97	Poor Slope	 0.00
Metea, eroded-----	25	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	 0.00 0.12 0.36 0.97 0.99	Fair Shrink-swell	 0.99	Poor Slope Too sandy	 0.00 0.36
Terril-----	12	Good		Good		Good	
Ridgeton-----	5	Good		Good		Fair Slope	 0.84
Hamel-----	3	Fair Low content of organic matter	 0.12	Poor Depth to saturated zone Shrink-swell	 0.00 0.99	Poor Depth to saturated zone	 0.00
L61E: Lester-----	55	Fair Low content of organic matter Too acid Carbonate content	 0.88 0.97 0.97	Fair Slope Shrink-swell	 0.18 0.98	Poor Slope	 0.00
Metea-----	25	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	 0.00 0.12 0.36 0.97 0.99	Fair Slope Shrink-swell	 0.18 0.99	Poor Slope Too sandy	 0.00 0.36
Terril-----	10	Good		Good		Good	

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61E: Hamel-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Ridgeton-----	5	Good		Good		Fair Slope	0.04
L62B: Koronis-----	55	Fair Low content of organic matter	0.12	Good		Fair Rock fragments	0.97
Kingsley-----	20	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Rock fragments	0.88
Malardi-----	20	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.48	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.92
Forestcity-----	5	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
L62C2: Koronis, eroded----	40	Fair Low content of organic matter	0.12	Good		Fair Slope Rock fragments	0.96 0.97
Kingsley, eroded----	25	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Rock fragments Slope	0.88 0.96
Malardi, eroded----	25	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.48	Good		Poor Too sandy Rock fragments Hard to reclaim Slope	0.00 0.00 0.92 0.96
Forestcity-----	10	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
L62D2: Koronis, eroded----	40	Fair Low content of organic matter	0.12	Good		Fair Slope Rock fragments	0.04 0.97
Kingsley, eroded----	25	Fair Low content of organic matter Too acid	0.12 0.92	Good		Fair Slope Rock fragments	0.04 0.88



Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L62D2: Malardi, eroded-----	25	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.48	Good		Poor Too sandy Rock fragments Slope Hard to reclaim	0.00 0.00 0.04 0.92
Forestcity-----	10	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
L62E: Koronis-----	40	Fair Low content of organic matter	0.12	Fair Slope	0.02	Poor Slope Rock fragments	0.00 0.97
Kingsley-----	25	Fair Low content of organic matter Too acid	0.12 0.92	Fair Slope	0.02	Poor Slope Rock fragments	0.00 0.88
Malardi-----	25	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.48	Fair Slope	0.02	Poor Slope Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.00 0.92
Forestcity-----	10	Fair Low content of organic matter	0.88	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
L64A: Tadkee-----	50	Poor Too sandy Wind erosion Low content of organic matter	0.00 0.00 0.12	Poor Depth to saturated zone	0.00	Poor Too sandy Depth to saturated zone	0.00 0.00
Tadkee, depressiona	36	Poor Too sandy Wind erosion Low content of organic matter	0.00 0.00 0.12	Poor Depth to saturated zone	0.00	Poor Too sandy Depth to saturated zone	0.00 0.00
Better drained soil	8	Poor Wind erosion Low content of organic matter Too sandy Too acid	0.00 0.12 0.22 0.95	Fair Depth to saturated zone	0.88	Fair Too sandy Depth to saturated zone	0.22 0.88
Granby-----	4	Poor Wind erosion Low content of organic matter Too sandy Droughty	0.00 0.00 0.36 0.77	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Too sandy	0.00 0.36

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L64A: Less sandy soil-----	2	Poor Wind erosion Low content of organic matter	0.00 0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L70C2: Lester, eroded-----	60	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Shrink-swell	0.97	Fair Slope	0.96
Malardi, eroded-----	25	Fair Too sandy Low content of organic matter Droughty	0.03 0.12 0.75	Good		Fair Too sandy Rock fragments Hard to reclaim Slope	0.03 0.28 0.92 0.96
Terril-----	12	Good		Good		Good	
Hamel-----	3	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone	0.00
L70D2: Lester, eroded-----	55	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Shrink-swell	0.97	Poor Slope	0.00
Malardi, eroded-----	25	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.48	Good		Poor Too sandy Slope Rock fragments Hard to reclaim	0.00 0.00 0.00 0.92
Terril-----	12	Good		Good		Good	
Ridgeton-----	5	Good		Good		Fair Slope	0.84
Hamel-----	3	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone	0.00
L70E: Lester-----	55	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Slope Shrink-swell	0.02 0.98	Poor Slope	0.00
Malardi-----	25	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.48	Poor Slope	0.00	Poor Slope Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.00 0.92

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L70E: Terril-----	10	Good		Good		Good	
Hamel-----	5	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Ridgeton-----	5	Good		Good		Fair Slope	0.04
L71C: Metea-----	80	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	0.00 0.12 0.36 0.97 0.99	Fair Shrink-swell	0.99	Fair Too sandy Slope	0.36 0.96
Lester-----	15	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Shrink-swell	0.97	Fair Slope	0.96
Moon-----	5	Poor Wind erosion Low content of organic matter Too sandy Too acid Water erosion	0.00 0.12 0.36 0.97 0.99	Fair Depth to saturated zone Shrink-swell	0.89 0.99	Fair Too sandy Depth to saturated zone	0.36 0.89
L72A: Lundlake, depressional-----	90	Good		Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
Forestcity-----	10	Good		Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone	0.00
L110E: Lester-----	50	Fair Low content of organic matter Too acid Carbonate content	0.88 0.97 0.97	Fair Slope Shrink-swell	0.32 0.98	Poor Slope	0.00
Ridgeton-----	30	Good		Fair Slope	0.92	Poor Slope	0.00
Cokato-----	10	Fair Low content of organic matter Carbonate content Water erosion	0.12 0.97 0.99	Fair Slope	0.32	Poor Slope	0.00

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L110E: Belview-----	6	Fair Low content of organic matter Carbonate content	0.12 0.97	Fair Slope	0.32	Poor Slope Carbonate content	0.00 0.97
Hamel-----	2	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Terril-----	2	Good		Good		Good	
L110F: Lester-----	55	Fair Low content of organic matter Too acid	0.12 0.97	Poor Slope Shrink-swell	0.00 0.99	Poor Slope	0.00
Ridgeton-----	30	Good		Fair Slope	0.32	Poor Slope	0.00
Cokato-----	8	Fair Low content of organic matter Carbonate content Water erosion	0.12 0.97 0.99	Poor Slope	0.00	Poor Slope	0.00
Belview-----	4	Fair Low content of organic matter Carbonate content	0.12 0.97	Poor Slope	0.00	Poor Slope Carbonate content	0.00 0.97
Terril-----	2	Good		Good		Good	
Hamel-----	1	Fair Low content of organic matter	0.12	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
L131A: Litchfield-----	85	Poor Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.12 0.95	Fair Depth to saturated zone	0.06	Poor Too sandy Depth to saturated zone	0.00 0.06
Darfur-----	10	Fair Low content of organic matter Too acid	0.12 0.97	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Crowfork-----	5	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.10 0.12 0.84	Good		Fair Too sandy Rock fragments	0.10 0.97

Table 15b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material	Potential as source of roadfill		Potential as source of topsoil		
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L132A:							
Hamel-----	50	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.99	Poor Depth to saturated zone	0.00
Glencoe, depressional-----	30	Fair Low content of organic matter	0.12	Poor Depth to saturated zone Shrink-swell	0.00 0.95	Poor Depth to saturated zone	0.00
Hamel, overwash-----	15	Good		Fair Depth to saturated zone	0.14	Fair Depth to saturated zone	0.14
Terril-----	5	Good		Good		Good	
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
U1A:							
Urban land-----	80	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated		Not rated	
U2A:							
Udorthents, wet substratum-----	100	Not rated		Not rated		Not rated	
U3B:							
Udorthents (cut and fill land)-----	100	Not rated		Not rated		Not rated	
U4A:							
Urban land-----	70	Not rated		Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated		Not rated	
U5A:							
Urban land-----	65	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated		Not rated	
U6B:							
Urban land-----	75	Not rated		Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated		Not rated	
W:							
Water-----	100	Not rated		Not rated		Not rated	

Table 16.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D1B:							
Anoka, terrace-----	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
Zimmerman, terrace--	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
Kost-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.82	Very limited Depth to water	1.00
D1C:							
Anoka, terrace-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
Zimmerman, terrace--	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
Kost-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.82	Very limited Depth to water	1.00
D2A:							
Elkriver, rarely flooded-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Cutbanks cave	1.00
				Depth to saturated zone	0.46	Depth to water	0.24
Mosford, rarely flooded-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
Elkriver, occasionally flooded-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Very limited Cutbanks cave	1.00
				Seepage	0.91		
D3A:							
Elkriver, occasionally flooded-----	80	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Very limited Cutbanks cave	1.00
				Seepage	0.91		
Fordum, frequently flooded-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Very limited Cutbanks cave	1.00
				Seepage	0.86		

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D3A: Winterfield, occasionally flooded-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.86	Very limited Cutbanks cave	1.00
D4A: Dorset-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Verndale, acid substratum-----	8	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Almora-----	2	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
D4B: Dorset-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Verndale, acid substratum-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Almora-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
D4C: Dorset-----	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Verndale, acid substratum-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Almora-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
D5B: Dorset-----	65	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Two Inlets-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Verndale, acid substratum-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Southhaven-----	5	Very limited Seepage	1.00	Very limited Piping Seepage Depth to saturated zone	1.00 0.86 0.09	Very limited Cutbanks cave Depth to water	1.00 0.54

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D5C:							
Dorset-----	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Two Inlets-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Southhaven-----	10	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.86	Very limited Cutbanks cave Depth to water	1.00 0.54
				Depth to saturated zone	0.09		
Verndale, acid substratum-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D5D:							
Dorset-----	50	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Two Inlets-----	35	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Southhaven-----	10	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.86	Very limited Cutbanks cave Depth to water	1.00 0.54
				Depth to saturated zone	0.09		
Verndale, acid substratum-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D6A:							
Verndale, acid substratum-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Dorset-----	7	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Hubbard-----	3	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D6B:							
Verndale, acid substratum-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Dorset-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00



Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D6C:							
Verndale, acid substratum-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Dorset-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
D7A:							
Hubbard-----	95	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Mosford-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
D7B:							
Hubbard-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Mosford-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
D7C:							
Hubbard-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Sandberg-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Mosford-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
D8B:							
Sandberg-----	95	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Arvilla, MAP >25----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.53	Very limited Depth to water	1.00
D8C:							
Sandberg-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Corliss-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Southhaven-----	5	Very limited Seepage	1.00	Very limited Piping Seepage Depth to saturated zone	1.00 0.86 0.09	Very limited Cutbanks cave Depth to water	1.00 0.54
D8D:							
Sandberg-----	80	Very limited Seepage Slope	1.00 0.02	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D8D:							
Corliss-----	10	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Southhaven-----	10	Very limited Seepage	1.00	Very limited Piping Seepage Depth to saturated zone	1.00 0.86 0.09	Very limited Cutbanks cave Depth to water	1.00 0.54
D8E:							
Sandberg-----	80	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Corliss-----	10	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Southhaven-----	10	Very limited Seepage	1.00	Very limited Piping Seepage Depth to saturated zone	1.00 0.86 0.09	Very limited Cutbanks cave Depth to water	1.00 0.54
D10A:							
Forada-----	95	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.91	Very limited Cutbanks cave	1.00
Depressional soil---	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.91	Very limited Cutbanks cave	1.00
D11A:							
Lindaas-----	80	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.40	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Lindaas, sandy substratum-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
Depressional soil---	10	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
D12B:							
Bygland, MAP >25----	70	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D12B: Bygland, sandy substratum-----	15	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping Seepage	0.93 0.29 0.08	Very limited Depth to water	1.00
Lindaas-----	10	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.40	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Depressional soil---	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
D12C2: Bygland, MAP >25----	70	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
Bygland, sandy substratum-----	15	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping Seepage	0.93 0.29 0.08	Very limited Depth to water	1.00
Lindaas-----	10	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.40	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Depressional soil---	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
D13A: Langola, terrace----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Depth to water	1.00
Duelm-----	10	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D13B: Langola, terrace----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.08	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D13B: Hubbard-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Duelm-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06
D15A: Seelyeville, drained	65	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Markey, drained----	25	Very limited Seepage	1.00	Not rated		Very limited Cutbanks cave	1.00
Mineral soil, drained-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 0.66	Very limited Cutbanks cave	1.00
D16A: Seelyeville, ponded	45	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Markey, ponded-----	45	Very limited Seepage	1.00	Not rated		Very limited Cutbanks cave	1.00
Mineral soil, ponded	10	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.66	Very limited Cutbanks cave	1.00
D17A: Duelm-----	90	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06
Isan-----	8	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.66	Very limited Cutbanks cave	1.00
Hubbard-----	2	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D18B: Braham, terrace----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
Duelm-----	15	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D19A: Fordum, frequently flooded-----	65	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.86	Very limited Cutbanks cave	1.00
Winterfield, frequently flooded	25	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.86	Very limited Cutbanks cave	1.00
Fordum, occasionally flooded-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.06	Very limited Cutbanks cave	1.00
D20A: Isan-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.66	Very limited Cutbanks cave	1.00
Isan, depression--	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.66	Very limited Cutbanks cave	1.00
Duelm-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06
D21A: Isan, depression--	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.66	Very limited Cutbanks cave	1.00
Isan-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.66	Very limited Cutbanks cave	1.00
D23A: Southhaven-----	90	Very limited Seepage	1.00	Very limited Piping Seepage Depth to saturated zone	1.00 0.86 0.09	Very limited Cutbanks cave Depth to water	1.00 0.54
Dorset-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Mosford-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D24A: Sedgeville, occasionally flooded-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.75	Very limited Cutbanks cave	1.00
Elkriver, occasionally flooded-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.91	Very limited Cutbanks cave	1.00
D25A: Soderville, terrace	90	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.86	Very limited Depth to water	1.00
Forada-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.91	Very limited Cutbanks cave	1.00
D26A: Foldahl, MAP >25----	90	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.10	Very limited Cutbanks cave Depth to water	1.00 0.06
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Isan-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.66	Very limited Cutbanks cave	1.00
D27A: Dorset, loamy substratum-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.61	Very limited Depth to water	1.00
Dorset-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Southhaven-----	5	Very limited Seepage	1.00	Very limited Piping Seepage Depth to saturated zone	1.00 0.86 0.09	Very limited Cutbanks cave Depth to water	1.00 0.54
D28B: Urban land-----	75	Not rated		Not rated		Not rated	
Bygland, MAP >25----	20	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D28B: Bygland, sandy substratum-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping Seepage	0.93 0.29 0.08	Very limited Depth to water	1.00
D29B: Urban land-----	70	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Mosford-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
D30A: Seelyeville, surface drained-----	45	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Markey, surface drained-----	45	Very limited Seepage	1.00	Not rated		Very limited Cutbanks cave	1.00
Mineral soil, surface drained----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.66	Very limited Cutbanks cave	1.00
D31A: Urban land-----	70	Not rated		Not rated		Not rated	
Duelm-----	20	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Isan-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.66	Very limited Cutbanks cave	1.00
D33B: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D33B: Verndale, acid substratum-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hubbard-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D33C: Urban land-----	70	Not rated		Not rated		Not rated	
Dorset-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Verndale, acid substratum-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hubbard-----	5	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
D34B: Urban land-----	75	Not rated		Not rated		Not rated	
Hubbard-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Mosford-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
D35A: Elkriver, occasionally flooded-----	70	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.91	Very limited Cutbanks cave	1.00
Fordum, occasionally flooded-----	20	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.86	Very limited Cutbanks cave	1.00
Udipsamments-----	5	Not rated		Not rated		Not rated	
Winterfield, occasionally flooded-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.86	Very limited Cutbanks cave	1.00
D37F: Dorset, bedrock substratum-----	70	Very limited Seepage Slope	1.00 0.50	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00



Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
D37F: Rock outcrop-----	20	Not rated		Not rated		Not rated	
Hubbard, bedrock substratum-----	10	Very limited Seepage Slope	1.00 0.50	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
D40A: Kratka, thick solum	80	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.31	Very limited Cutbanks cave	1.00
Duelm-----	10	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.66	Very limited Cutbanks cave Depth to water	1.00 0.06
Foldahl, MAP >25----	10	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.10	Very limited Cutbanks cave Depth to water	1.00 0.06
D41C: Urban land-----	75	Not rated		Not rated		Not rated	
Waukon-----	20	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.69	Very limited Depth to water	1.00
Braham-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
D43A: Gonvick, terrace----	85	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.58	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Braham-----	15	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
GP: Pits, gravel-----	80	Not rated		Not rated		Not rated	
Udipsamments-----	20	Not rated		Not rated		Not rated	
L2B: Malardi-----	65	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hawick-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Rasset-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L2B: Eden Prairie-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L2C: Malardi-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hawick-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Tomall-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
Crowfork-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
L2D: Malardi-----	55	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hawick-----	30	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Tomall-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
Crowfork-----	5	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
L2E: Malardi-----	55	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hawick-----	30	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Tomall-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
L3A: Rasset-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Malardi-----	8	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Eden Prairie-----	2	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L3B: Rasset-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L3B:							
Malardi-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Eden Prairie-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L3C:							
Rasset-----	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Malardi-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Tomall-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
Eden Prairie-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L4B:							
Crowfork-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Eden Prairie-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L4C:							
Crowfork-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Eden Prairie-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L4D:							
Crowfork-----	85	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Eden Prairie-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L6A:							
Biscay-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
Biscay, depressiona	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
Mayer-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.58	Very limited Cutbanks cave	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L7A: Biscay, depressional	80	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.08	Very limited Cutbanks cave	1.00
Biscay-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
Mayer-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.58	Very limited Cutbanks cave	1.00
L8A: Darfur-----	95	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.11	Very limited Cutbanks cave	1.00
Dassel-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.09	Very limited Cutbanks cave	1.00
L9A: Minnetonka-----	90	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.43 0.10
Depressional soil---	10	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.43 0.10
L10B: Kasota-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Eden Prairie-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Wet soil in swales--	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 0.43 0.08	Very limited Cutbanks cave	1.00
L11B: Grays-----	90	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.91 0.86	Very limited Depth to water	1.00
Kasota-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L11B: Crowfork-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
L12A: Muskego, frequently flooded-----	30	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Blue Earth, frequently flooded	30	Somewhat limited Seepage	0.72	Very limited Content of organic matter Ponding Depth to saturated zone Piping	1.00 1.00 1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Houghton, frequently flooded-----	30	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Oshawa, frequently flooded-----	10	Somewhat limited Seepage	0.05	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.92	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L13A: Klossner, drained---	80	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Mineral soil, drained-----	15	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Houghton, drained---	5	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
L14A: Houghton, drained---	80	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Klossner, drained---	10	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Mineral soil, drained-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L15A: Klossner, ponded---	30	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L15A: Okoboji, ponded-----	30	Somewhat limited Seepage	0.05	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.72	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Glencoe, ponded-----	30	Somewhat limited Seepage	0.70	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.15	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Houghton, ponded----	10	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
L16A: Muskego, ponded-----	30	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Blue Earth, ponded--	30	Somewhat limited Seepage	0.72	Very limited Content of organic matter Ponding Depth to saturated zone Piping	1.00 1.00 1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Houghton, ponded----	30	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Klossner, ponded----	10	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
L17B: Angus-----	50	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Malardi-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Moon-----	10	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
Cordova-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L18A: Shields-----	85	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone Hard to pack	1.00 0.03	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L18A: Lerdal-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Mazaska-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L19B: Moon-----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
Finchford-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L20B: Fedji, silty substratum-----	85	Very limited Seepage	1.00	Very limited Piping Depth to saturated zone Seepage	1.00 0.18 0.05	Very limited Cutbanks cave Depth to water Slow refill	1.00 0.44 0.43
Finchford-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L21A: Canisteo-----	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.67	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Cordova-----	15	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Glencoe-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L22C2: Lester, eroded-----	70	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Angus-----	15	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Terril-----	12	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L22C2: Hamel-----	3	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L22D2: Lester, eroded-----	80	Somewhat limited Seepage Slope	0.72 0.03	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Terril-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Hamel-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Ridgeton-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
L22E: Lester, morainic----	75	Somewhat limited Seepage Slope	0.72 0.18	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Terril-----	15	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Hamel-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Ridgeton-----	5	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
L22F: Lester, morainic----	75	Somewhat limited Seepage Slope	0.72 0.50	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Terril-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Ridgeton-----	10	Somewhat limited Seepage Slope	0.72 0.12	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
Hamel-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10



Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L23A: Cordova-----	85	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Glencoe-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Nessel-----	5	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.19	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.06
L24A: Glencoe, depressional-----	90	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Cordova-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L25A: Le Sueur-----	80	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.37	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Cordova-----	15	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Angus-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
L26A: Shorewood-----	85	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Minnetonka-----	10	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.43 0.10
Good Thunder-----	5	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.87 0.20	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.06

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L26B: Shorewood-----	90	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Good Thunder-----	5	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.87 0.20	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.06
Minnetonka-----	5	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.43 0.10
L26C2: Shorewood, eroded---	95	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
Minnetonka-----	5	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.43 0.10
L27A: Suckercreek, frequently flooded	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.07	Very limited Cutbanks cave	1.00
Suckercreek, occasionally flooded-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.01	Somewhat limited Cutbanks cave	0.10
Hanlon, occasionally flooded-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.06	Very limited Cutbanks cave Depth to water	1.00 0.06
L28A: Suckercreek, occasionally flooded-----	80	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.01	Somewhat limited Cutbanks cave	0.10
Suckercreek, frequently flooded	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.07	Very limited Cutbanks cave	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L28A: Hanlon, occasionally flooded-----	10	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.06	Very limited Cutbanks cave Depth to water	1.00 0.06
L29A: Hanlon, occasionally flooded-----	80	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.06	Very limited Cutbanks cave Depth to water	1.00 0.06
Suckercreek, occasionally flooded-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.01	Somewhat limited Cutbanks cave	0.10
Suckercreek, frequently flooded	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.07	Very limited Cutbanks cave	1.00
L30A: Medo, surface drained-----	65	Very limited Seepage	1.00	Not rated		Very limited Cutbanks cave	1.00
Medo, drained-----	20	Very limited Seepage	1.00	Not rated		Very limited Cutbanks cave	1.00
Mineral soil, drained-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.09	Very limited Cutbanks cave	1.00
L31A: Medo, ponded-----	30	Very limited Seepage	1.00	Not rated		Very limited Cutbanks cave	1.00
Dassel, ponded-----	30	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.09	Very limited Cutbanks cave	1.00
Biscay, ponded-----	30	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.08	Very limited Cutbanks cave	1.00
Houghton, ponded----	5	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L31A: Muskego, ponded-----	5	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
L32D: Hawick-----	75	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage	0.08	Very limited Depth to water	1.00
Crowfork-----	15	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Tomall-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
L32F: Hawick-----	75	Very limited Seepage Slope	1.00 0.41	Somewhat limited Seepage	0.08	Very limited Depth to water	1.00
Crowfork-----	15	Very limited Seepage Slope	1.00 0.41	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
Tomall-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
L35A: Lerdal-----	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Hard to pack	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Mazaska-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Cordova-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Le Sueur-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.37	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L36A: Hamel, overwash-----	50	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Hamel-----	43	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L36A:							
Terril-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Glencoe-----	2	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L37B:							
Angus, morainic----	80	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Angus, eroded-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Le Sueur-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.37	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Cordova-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L38A:							
Rushriver, occasionally flooded-----	75	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
Oshawa, frequently flooded-----	15	Somewhat limited Seepage	0.05	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.92	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Minneiska, occasionally flooded-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.01	Very limited Cutbanks cave Depth to water	1.00 0.06
Alganssee, occasionally flooded-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.22	Very limited Cutbanks cave	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L39A: Minneiska, occasionally flooded-----	70	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.01	Very limited Cutbanks cave Depth to water	1.00 0.06
Rushriver, occasionally flooded-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
Oshawa, frequently flooded-----	10	Somewhat limited Seepage	0.05	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.92	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Algansee, occasionally flooded-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.22	Very limited Cutbanks cave	1.00
L40B: Angus-----	45	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Kilkenny-----	40	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Lerdal-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Mazaska-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L41C2: Lester, eroded-----	45	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Kilkenny, eroded----	40	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Hard to pack	0.86 0.08	Very limited Depth to water	1.00
Terril-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41C2: Derrynane-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L41D2: Lester, eroded-----	45	Somewhat limited Seepage Slope	0.72 0.03	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Kilkenny, eroded----	35	Somewhat limited Seepage Slope	0.70 0.03	Somewhat limited Depth to saturated zone Hard to pack	0.86 0.08	Very limited Depth to water	1.00
Terril-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Derrynane-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Ridgeton-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
L41E: Lester-----	45	Somewhat limited Seepage Slope	0.72 0.18	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Kilkenny-----	40	Somewhat limited Seepage Slope	0.70 0.18	Somewhat limited Depth to saturated zone	0.86	Very limited Depth to water	1.00
Terril-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Derrynane-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Ridgeton-----	5	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
L41F: Lester-----	45	Somewhat limited Seepage Slope	0.72 0.50	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Kilkenny-----	35	Somewhat limited Seepage Slope	0.70 0.50	Somewhat limited Depth to saturated zone	0.86	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L41F: Ridgeton-----	10	Somewhat limited Seepage Slope	0.72 0.12	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
Terril-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Derrynane-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L42B: Kingsley-----	70	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Gotham-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Grays-----	5	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.91 0.86	Somewhat limited Slow refill Cutbanks cave Depth to water	0.30 0.10 0.06
L42C: Kingsley-----	70	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Gotham-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Grays-----	5	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.91 0.86	Somewhat limited Slow refill Cutbanks cave Depth to water	0.30 0.10 0.06
L42D: Kingsley-----	70	Somewhat limited Seepage Slope	0.05 0.02	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Gotham-----	25	Very limited Seepage Slope	1.00 0.02	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Grays-----	5	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.91 0.86	Somewhat limited Slow refill Cutbanks cave Depth to water	0.30 0.10 0.06
L42E: Kingsley-----	70	Somewhat limited Slope Seepage	0.18 0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Gotham-----	25	Very limited Seepage Slope	1.00 0.18	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00



Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L42E: Grays-----	5	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.91 0.86	Somewhat limited Slow refill Cutbanks cave Depth to water	0.30 0.10 0.06
L42F: Kingsley-----	70	Somewhat limited Slope Seepage	0.50 0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Gotham-----	25	Very limited Seepage Slope	1.00 0.50	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Grays-----	5	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.91 0.86	Somewhat limited Slow refill Cutbanks cave Depth to water	0.30 0.10 0.06
L43A: Brouillett, occasionally flooded-----	80	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 1.00	Very limited Cutbanks cave	1.00
Minneiska, occasionally flooded-----	10	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.86 0.01	Very limited Cutbanks cave Depth to water	1.00 0.06
Rushriver, occasionally flooded-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.08	Very limited Cutbanks cave	1.00
L44A: Nessel-----	85	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.19	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.06
Cordova-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Angus-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L45A:							
Dundas-----	65	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.15	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Cordova-----	25	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Nessel-----	5	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.19	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.06
Glencoe-----	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L46A:							
Tomall-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Cutbanks cave Depth to water	1.00 0.81
Rasset-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Malardi-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L47A:							
Eden Prairie-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Malardi-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Rasset-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L47B:							
Eden Prairie-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Malardi-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Rasset-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L47C:							
Eden Prairie-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Malardi-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L47C: Rasset-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hawick-----	10	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
L49A: Klossner, surface drained-----	65	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Klossner, drained---	20	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Mineral soil, drained-----	15	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L50A: Houghton, surface drained-----	40	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Muskego, surface drained-----	40	Very limited Seepage	1.00	Very limited Content of organic matter Depth to saturated zone Piping Ponding	1.00 1.00 1.00 1.00	Somewhat limited Cutbanks cave	0.10
Klossner, drained---	10	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Mineral soil, drained-----	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L52C: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Kingsley-----	5	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
L52E: Urban land-----	75	Not rated		Not rated		Not rated	
Lester-----	20	Somewhat limited Seepage Slope	0.72 0.12	Somewhat limited Piping	0.30	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L52E: Kingsley-----	5	Somewhat limited Slope Seepage	0.12 0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
L53B: Urban land-----	70	Not rated		Not rated		Not rated	
Moon-----	20	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
Lester-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
L54A: Urban land-----	70	Not rated		Not rated		Not rated	
Dundas-----	20	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.15	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Nessel-----	10	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.19	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.06
L55B: Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Rasset-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Eden Prairie-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L55C: Urban land-----	70	Not rated		Not rated		Not rated	
Malardi-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Hawick-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Crowfork-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
L56A: Muskego, frequently flooded-----	45	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10
Klossner, frequently flooded-----	45	Very limited Seepage	1.00	Not rated		Somewhat limited Cutbanks cave	0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L56A: Suckercreek, frequently flooded	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.07	Very limited Cutbanks cave	1.00
L58B: Koronis-----	60	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Kingsley-----	25	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Forestcity-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
Gotham-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L58C2: Koronis, eroded----	55	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Kingsley, eroded----	25	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Forestcity-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
Gotham-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L58D2: Koronis, eroded----	55	Very limited Seepage Slope	1.00 0.03	Not limited		Very limited Depth to water	1.00
Kingsley, eroded----	25	Somewhat limited Seepage Slope	0.05 0.03	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Forestcity-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
Gotham-----	5	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L58E: Koronis-----	55	Very limited Seepage Slope	1.00 0.18	Not limited		Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L58E: Kingsley-----	25	Somewhat limited Slope Seepage	0.18 0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Forestcity-----	15	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
Gotham-----	5	Very limited Seepage Slope	1.00 0.18	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
L59A: Forestcity-----	70	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
Lundlake, depressional-----	25	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Piping Seepage	1.00 1.00 0.84 0.03	Somewhat limited Cutbanks cave	0.10
Marcellon-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.03	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L60B: Angus-----	65	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Moon-----	30	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
Hamel-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L61C2: Lester, eroded-----	60	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Metee, eroded-----	25	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Terril-----	12	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L61C2: Hamel-----	3	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L61D2: Lester, eroded-----	55	Somewhat limited Seepage Slope	0.72 0.03	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Metea, eroded-----	25	Very limited Seepage Slope	1.00 0.03	Not limited		Very limited Depth to water	1.00
Terril-----	12	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Ridgeton-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
Hamel-----	3	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L61E: Lester-----	55	Somewhat limited Seepage Slope	0.72 0.18	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Metea-----	25	Very limited Seepage Slope	1.00 0.18	Not limited		Very limited Depth to water	1.00
Terril-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Hamel-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Ridgeton-----	5	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
L62B: Koronis-----	55	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Kingsley-----	20	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Malardi-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L62B: Forestcity-----	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
L62C2: Koronis, eroded----	40	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Kingsley, eroded----	25	Somewhat limited Seepage	0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Malardi, eroded----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Forestcity-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
L62D2: Koronis, eroded----	40	Very limited Seepage Slope	1.00 0.02	Not limited		Very limited Depth to water	1.00
Kingsley, eroded----	25	Somewhat limited Seepage Slope	0.05 0.02	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Malardi, eroded----	25	Very limited Seepage Slope	1.00 0.02	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Forestcity-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10
L62E: Koronis-----	40	Very limited Seepage Slope	1.00 0.24	Not limited		Very limited Depth to water	1.00
Kingsley-----	25	Somewhat limited Slope Seepage	0.24 0.05	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Malardi-----	25	Very limited Seepage Slope	1.00 0.24	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Forestcity-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10



Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L64A: Tadkee-----	50	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.79	Very limited Cutbanks cave	1.00
Tadkee, depressional	36	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.79	Very limited Cutbanks cave	1.00
Better drained soil	8	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.87 0.08	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
Granby-----	4	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.07	Very limited Cutbanks cave	1.00
Less sandy soil----	2	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.46	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L70C2: Lester, eroded-----	60	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Malardi, eroded----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Terril-----	12	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Hamel-----	3	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L70D2: Lester, eroded-----	55	Somewhat limited Seepage Slope	0.72 0.03	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Malardi, eroded----	25	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Terril-----	12	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L70D2: Ridgeton-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
Hamel-----	3	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L70E: Lester-----	55	Somewhat limited Seepage Slope	0.72 0.24	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Malardi-----	25	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.86	Very limited Depth to water	1.00
Terril-----	10	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Hamel-----	5	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Ridgeton-----	5	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
L71C: Metee-----	80	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Lester-----	15	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Moon-----	5	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.86	Very limited Cutbanks cave Slow refill Depth to water	1.00 0.30 0.06
L72A: Lundlake, depression-----	90	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Piping Seepage	1.00 0.84 0.03	Somewhat limited Cutbanks cave	0.10
Forestcity-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Somewhat limited Cutbanks cave	0.10

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L110E:							
Lester-----	50	Somewhat limited Seepage Slope	0.72 0.15	Somewhat limited Piping	0.30	Very limited Depth to water	1.00
Ridgeton-----	30	Somewhat limited Seepage Slope	0.72 0.06	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
Cokato-----	10	Somewhat limited Seepage Slope	0.72 0.15	Somewhat limited Piping	0.35	Very limited Depth to water	1.00
Belview-----	6	Somewhat limited Seepage Slope	0.70 0.15	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
Hamel-----	2	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Terril-----	2	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
L110F:							
Lester-----	55	Somewhat limited Seepage Slope	0.72 0.72	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
Ridgeton-----	30	Somewhat limited Seepage Slope	0.72 0.15	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
Cokato-----	8	Somewhat limited Seepage Slope	0.72 0.50	Somewhat limited Piping	0.35	Very limited Depth to water	1.00
Belview-----	4	Somewhat limited Slope Seepage	0.72 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
Terril-----	2	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.44 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
Hamel-----	1	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
L131A:							
Litchfield-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.07	Very limited Cutbanks cave	1.00

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L131A: Darfur-----	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.11	Very limited Cutbanks cave	1.00
Crowfork-----	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.91	Very limited Depth to water	1.00
L132A: Hamel-----	50	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Glencoe, depressional-----	30	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.49	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Hamel, overwash-----	15	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Terril-----	5	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.46 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.28 0.10
M-W: Water, miscellaneous	100	Not rated		Not rated		Not rated	
U1A: Urban land-----	80	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	20	Not rated		Not rated		Not rated	
U2A: Udorthents, wet substratum-----	100	Not rated		Not rated		Not rated	
U3B: Udorthents (cut and fill land)-----	100	Not rated		Not rated		Not rated	
U4A: Urban land-----	70	Not rated		Not rated		Not rated	
Udipsamments (cut and fill land)-----	30	Not rated		Not rated		Not rated	
U5A: Urban land-----	65	Not rated		Not rated		Not rated	
Udorthents, wet substratum-----	35	Not rated		Not rated		Not rated	

Table 16.--Water Management--Continued

Map symbol and component name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
U6B:							
Urban land-----	75	Not rated		Not rated		Not rated	
Udorthents (cut and fill land)-----	25	Not rated		Not rated		Not rated	
W:							
Water-----	100	Not rated		Not rated		Not rated	



# Soil Properties

---

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major horizons of each soil. Pertinent soil and water features also are given.

## Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major horizons of each soil. Most soils have horizons of contrasting properties within the upper 5 or 6 feet.

*Depth* to the upper and lower boundaries of each horizon is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, an

appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3

inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

## Physical and Chemical Properties

Tables 18 and 19 show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major horizons of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each horizon is indicated.

In table 18, *clay* as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each major soil horizon is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence linear extensibility, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $\frac{1}{3}$ -bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 18, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and

roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Permeability* refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil horizon. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* percent is the linear expression of the volume difference of natural soil fabric at  $\frac{1}{3}$ -bar or  $\frac{1}{10}$ -bar water content and oven dryness. The volume change is reported as percent change for the whole soil. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

Linear extensibility of 3 percent or more can cause damage to buildings, roads, and other structures. Special design is often needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In table 18, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water



capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

*Erosion factors* are shown in table 18 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. Descriptions of these groups are available in the National Soil Survey Handbook (USDA, 2003).

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

In table 19, *cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Soil reaction* is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH

of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Gypsum* is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

## Water Features

*Soil moisture status* is an estimate of the fluctuating water content in a soil. It greatly influences vegetation type and plant growth; physical properties of soils, such as permeability, workability, strength, linear extensibility, and frost action; and chemical interactions and transport. Many other properties, qualities, and interpretations also are affected. Soil moisture status is important in the classification of soils, wetland, and habitat.

Table 20 gives estimates of soil moisture for each component of a map unit at various depths for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most commonly. *Dry* indicates a moisture condition under which most plants (especially crops) cannot extract water for growth. *Moist* indicates a moisture condition under which soil water is most readily available for plant growth. *Wet* indicates a condition under which water will stand in an unlined hole or at least a condition under which the soil is too wet for the growth of most agricultural species. A moisture status of 4.0-6.7 (wet) indicates that most of the time the component is saturated at some depth between 4.0 feet and 6.7 feet during the month designated. In some years the soil may be saturated at a depth of less than 4.0 feet or more than 6.7 feet; however, field observations indicate that the soil will be saturated between these depths in most years. In the summer, the soil may show the effects of drying plus intermittent rains that result in a moist or wet layer over a dry layer that gets moist or wet again.

In table 20, *hydrologic soil groups* are groups of

soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a zone in which the soil moisture status is wet, the infiltration rate, permeability after prolonged wetting, and the depth to a very slowly permeable horizon or horizons. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil horizons.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have a moderately fine to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a horizon or horizons that impede the downward movement of water or soils that have a moderately fine or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clayey soils that have a high linear extensibility; soils that have a zone, high in the profile, in which the soil moisture status is wet on a permanent basis; soils that have a claypan or clay horizon or horizons at or near the surface; and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

*Flooding*, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in

marshes and swamps or in closed depressions is considered to be ponding.

Table 21 gives estimates of the frequency and duration of flooding for every month of the year. Flooding frequency is the annual probability of a flood event expressed as a class. *None* indicates no reasonable possibility of flooding (the chance of flooding is nearly 0 percent in any year, or flooding is likely less than once in 500 years). *Very rare* indicates that flooding is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year, or flooding is likely less than once in 100 years but more than once in 500 years). *Rare* indicates that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year, or flooding is likely 1 to 5 times in 100 years). *Occasional* indicates that flooding occurs infrequently under usual weather conditions (the chance of flooding is 5 to 50 percent in any year, or flooding is likely 5 to 50 times in 100 years). *Frequent* indicates that flooding is likely to occur often under usual weather conditions (the chance of flooding is more than 50 percent in any year, or flooding is likely more than 50 times in 100 years; but the chance of flooding is less than 50 percent in all months in any year). *Very frequent* indicates that flooding is likely to occur very often under usual weather conditions (the chance of flooding is more than 50 percent in all months of any year).

Flooding duration is the average duration of inundation per flood occurrence expressed as a class. *Extremely brief* is 0.1 hour to 4.0 hours; *very brief* is 4 to 48 hours; *brief* is 2 to 7 days; *long* is 7 to 30 days; and *very long* is more than 30 days. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and level of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation.

Table 22 gives estimates of the frequency,

duration, and depth of ponding for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most commonly.

Ponding frequency is the number of times ponding occurs over a period of time. *None* indicates no reasonable possibility of ponding (the chance of ponding is nearly 0 percent in any year). *Rare* indicates that ponding is unlikely but possible under unusual weather conditions (the chance of ponding ranges from nearly 0 percent to 5 percent in any year, or ponding is likely 0 to 5 times in 100 years). *Occasional* indicates that ponding is expected infrequently under usual weather conditions (the chance of ponding ranges from 5 to 50 percent in any one year, or ponding is likely 5 to 50 times in 100 years). *Frequent* indicates that ponding is likely to occur under usual weather conditions (the chance of ponding is more than 50 percent in any year, or ponding is likely more than 50 times in 100 years).

Ponding duration is the average length of time of the ponding occurrence. It is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days).

## Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows

the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to a zone in which the soil moisture status is wet are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a saturated zone high in the profile during the winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Table 17.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D1B:													
Anoka, terrace--	55	0-10	Loamy fine sand	SM	A-2	0	0	100	100	85-100	20-35	0-20	NP-4
		10-60	Very fine sand, fine sand	SP-SM, SM, SP	A-2	0	0	100	95-100	90-100	4-35	0-20	NP-4
Zimmerman, terrace-----	40	0-9	Fine sand	SM, SP-SM	A-2	0	0	100	95-100	95-100	10-20	0-20	NP-4
		9-60	Fine sand, loamy fine sand	SM, SP-SM, SP	A-2, A-3	0	0	100	95-100	70-100	4-20	0-20	NP-4
Kost-----	5	0-14	Loamy fine sand	SM	A-2, A-4	0	0	100	100	85-100	15-50	0-20	NP-4
		14-33	Fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	75-100	5-35	0-20	NP-4
		33-60	Fine sand, sand	SP-SM, SP, SM	A-2, A-3	0	0	90-100	90-100	75-100	2-30	0-20	NP-4
D1C:													
Anoka, terrace--	45	0-10	Loamy fine sand	SM	A-2	0	0	100	100	85-100	20-35	0-20	NP-4
		10-60	Very fine sand, fine sand	SP-SM, SM, SP	A-2	0	0	100	95-100	90-100	4-35	0-20	NP-4
Zimmerman, terrace-----	45	0-9	Fine sand	SM, SP-SM	A-2	0	0	100	95-100	95-100	10-20	0-20	NP-4
		9-60	Fine sand, loamy fine sand	SM, SP-SM, SP	A-3, A-2	0	0	100	95-100	70-100	4-20	0-20	NP-4
Kost-----	10	0-14	Loamy fine sand	SM	A-2, A-4	0	0	100	100	85-100	15-50	0-20	NP-4
		14-33	Fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	75-100	5-35	0-20	NP-4
		33-60	Fine sand, sand	SM, SP-SM, SP	A-2, A-3	0	0	90-100	90-100	75-100	2-30	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D2A: Elkriver, rarely flooded-----	85	0-10	Fine sandy loam	ML, SM	A-4	0	0	100	85-100	50-95	30-65	0-25	NP-4
		10-35	Fine sandy loam, very fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		35-39	Very fine sandy loam, fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		39-80	Fine sand, sand, gravelly sand	SM, SP-SM, SP	A-1-b, A-2-4, A-3	0	0	95-100	65-100	40-75	4-15	0-20	NP-4
Mosford, rarely flooded-----	10	0-11	Fine sandy loam	SM	A-2, A-4	0	0	100	85-100	55-85	15-55	0-25	NP-6
		11-16	Fine sandy loam, sandy loam	SM	A-2, A-4	0	0	100	85-100	55-85	15-55	0-25	NP-6
		16-57	Sand, fine sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	85-100	45-85	5-35	0-20	NP-4
		57-80	Sand, coarse sand, gravelly sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	95-100	50-100	25-70	0-15	0-20	NP-4
Elkriver, occasionally flooded-----	5	0-10	Fine sandy loam	ML, SM	A-4	0	0	100	85-100	50-95	30-65	0-25	NP-4
		10-26	Fine sandy loam, very fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		26-32	Very fine sandy loam, fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		32-80	Loamy fine sand, sand, gravelly sand	SM, SP-SM, SP	A-1-b, A-2-4, A-3	0	0	95-100	65-100	35-70	4-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D3A: Elkriver, occasionally flooded-----	80	0-10	Fine sandy loam	ML, SM	A-4	0	0	100	85-100	50-95	30-65	0-25	NP-4
		10-26	Fine sandy loam, very fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		26-32	Very fine sandy loam, fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		32-80	Loamy fine sand, sand, gravelly sand	SP, SM, SP-SM	A-1-b, A-2-4, A-3	0	0	95-100	65-100	35-70	4-15	0-20	NP-4
Fordum, frequently flooded-----	15	0-7	Fine sandy loam	SC-SM, CL-ML, SM	A-1, A-2, A-4	0	0-5	80-100	75-100	45-95	20-65	0-30	NP-7
		7-28	Silt loam, sandy loam, gravelly loam	ML, SM	A-1, A-2, A-4	0	0-5	30-100	25-100	20-100	10-90	0-20	NP-4
		28-80	Sand, very gravelly loamy fine sand	GP, SM, SP	A-1, A-2, A-3	0	0-5	30-100	25-100	7-95	1-50	0-20	NP-4
Winterfield, occasionally flooded-----	5	0-8	Loamy fine sand	SC-SM, SM	A-2-4, A-4	0	0	100	95-100	50-90	15-45	0-25	NP-7
		8-20	Sand, coarse sand, loamy sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2-4, A-3, A-4	0	0	100	95-100	50-90	2-45	0-25	NP-7
		20-80	Sand, gravelly sand, loamy fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0	85-100	70-100	35-80	0-35	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D4A:													
Dorset-----	90	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-2, A-1	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Verndale, acid substratum-----	8	0-10	Sandy loam	SM	A-4, A-2	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Almora-----	2	0-10	Loam	CL-ML, SC-SM, SC	A-4	0	0	95-100	85-100	45-85	45-75	23-30	6-11
		10-14	Sandy loam, fine sandy loam, loam	CL-ML, SC-SM, SC	A-4	0	0	95-100	85-100	45-85	35-65	23-30	6-11
		14-36	Sandy clay loam, gravelly sandy clay loam, loam	CL, SC	A-4, A-6	0	0-5	95-100	60-98	40-80	40-75	34-39	9-18
		36-41	Gravelly loamy coarse sand, sand, loamy sand	SM, SC-SM, SP-SM	A-1, A-3	0	0-5	55-90	45-85	25-70	5-30	0-20	NP-6
		41-80	Gravelly coarse sand, sand, coarse sand	SP, SP-SM, SW	A-1	0	0-5	55-85	45-80	15-65	0-20	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D4B:													
Dorset-----	85	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Verndale, acid substratum-----	10	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Almora-----	5	0-10	Loam	CL-ML, SC-SM, SC	A-4	0	0	95-100	85-100	45-85	45-75	23-30	6-11
		10-14	Sandy loam, fine sandy loam, loam	CL-ML, SC-SM, SC	A-4	0	0	95-100	85-100	45-85	35-65	23-30	6-11
		14-36	Sandy clay loam, gravelly sandy clay loam, loam	CL, SC	A-4, A-6	0	0-5	95-100	60-98	40-80	40-75	34-39	9-18
		36-41	Gravelly loamy coarse sand, sand, loamy sand	SC-SM, SP-SM, SM	A-1, A-3	0	0-5	55-90	45-85	25-70	5-30	0-20	NP-6
		41-80	Gravelly coarse sand, sand, coarse sand	SP, SP-SM, SW	A-1	0	0-5	55-85	45-80	15-65	0-20	0-20	NP-4



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D4C:													
Dorset-----	75	0-11	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		11-19	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		19-32	Gravelly loamy sand, gravelly coarse sand, coarse sand	SM, GM, SC-SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		32-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Verndale, acid substratum-----	15	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Almora-----	10	0-10	Loam	CL-ML, SC-SM, SC	A-4	0	0	95-100	85-100	45-85	45-75	23-30	6-11
		10-14	Sandy loam, fine sandy loam, loam	CL-ML, SC-SM, SC	A-4	0	0	95-100	85-100	45-85	35-65	23-30	6-11
		14-36	Sandy clay loam, gravelly sandy clay loam, loam	CL, SC	A-4, A-6	0	0-5	95-100	60-98	40-80	40-75	34-39	9-18
		36-41	Gravelly loamy coarse sand, sand, loamy sand	SC-SM, SP-SM, SM	A-1, A-3	0	0-5	55-90	45-85	25-70	5-30	0-20	NP-6
		41-80	Gravelly coarse sand, sand, coarse sand	SP, SP-SM, SW	A-1	0	0-5	55-85	45-80	15-65	0-20	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D5B:													
Dorset-----	65	0-11	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		11-19	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		19-32	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		32-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Two Inlets-----	25	0-9	Loamy sand	SM	A-2-4	0	0-1	90-100	80-100	35-75	15-30	0-20	NP-4
		9-19	Gravelly loamy sand, loamy coarse sand, loamy sand	SM, SP-SM	A-2, A-2-4, A-3	0	0-5	80-100	50-90	30-65	5-30	0-25	NP-7
		19-80	Gravelly coarse sand, gravelly sand, sand	SP-SM, SP, SW	A-3, A-1	0	0-5	50-95	50-75	30-55	2-10	0-20	NP-4
Verndale, acid substratum-----	5	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Southhaven-----	5	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand, gravelly sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D5C:													
Dorset-----	55	0-11	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		11-19	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		19-32	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		32-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Two Inlets-----	30	0-9	Loamy sand	SM	A-2-4	0	0-1	90-100	80-100	35-75	15-30	0-20	NP-4
		9-19	Gravelly loamy sand, loamy coarse sand, loamy sand	SM, SP-SM	A-2, A-2-4, A-3	0	0-5	80-100	50-90	30-65	5-30	0-25	NP-7
		19-80	Gravelly coarse sand, gravelly sand, sand	SP-SM, SP, SW	A-3, A-1	0	0-5	50-95	50-75	30-55	2-10	0-20	NP-4
Southhaven-----	10	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand, gravelly sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP
Verndale, acid substratum-----	5	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D5D: Dorset-----	50	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-25	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		25-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Two Inlets-----	35	0-9	Loamy sand	SM	A-2-4	0	0-1	90-100	80-100	35-75	15-30	0-20	NP-4
		9-19	Gravelly loamy sand, loamy coarse sand, loamy sand	SM, SP-SM	A-2, A-2-4, A-3	0	0-5	80-100	50-90	30-65	5-30	0-25	NP-7
		19-80	Gravelly coarse sand, gravelly sand, sand	SP-SM, SP, SW	A-3, A-1	0	0-5	50-95	50-75	30-55	2-10	0-20	NP-4
Southhaven-----	10	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand	SW, SP	A-1-b	0	0	85-100	45-100	5-30	2-12	0-15	NP
Verndale, acid substratum-----	5	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D6A: Verndale, acid substratum-----	90	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SW, SP	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Dorset-----	7	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Hubbard-----	3	0-20	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		20-32	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		32-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
D6B: Verndale, acid substratum-----	85	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D6B:													
Dorset-----	10	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Hubbard-----	5	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
D6C:													
Verndale, acid substratum-----	80	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Dorset-----	15	0-11	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		11-19	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		19-32	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		32-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D6C: Hubbard-----	5	0-12	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		12-33	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	4-12	0-20	NP-4
		33-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
D7A: Hubbard-----	95	0-20	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		20-32	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		32-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
Mosford-----	5	0-13	Sandy loam	SM	A-2-4, A-4	0	0	100	85-100	50-85	25-55	0-25	NP-6
		13-16	Sandy loam, coarse sandy loam, fine sandy loam	SM	A-4, A-2-4	0	0	100	85-100	55-85	25-55	0-25	NP-6
		16-35	Coarse sand, sand, loamy sand	SP, SP-SM	A-2-4, A-3	0	0	100	85-100	45-65	4-30	0-20	NP-4
		35-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1, A-3	0	0	95-100	50-100	45-75	4-15	0-20	NP-4
D7B: Hubbard-----	90	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D7B: Mosford-----	10	0-13	Sandy loam	SM	A-2-4, A-4	0	0	100	85-100	50-85	25-55	0-25	NP-6
		13-16	Sandy loam, coarse sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0	100	85-100	55-85	25-55	0-25	NP-6
		16-35	Coarse sand, sand, loamy sand	SP, SP-SM	A-2-4, A-3	0	0	100	85-100	45-65	4-30	0-20	NP-4
		35-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1, A-3	0	0	95-100	50-100	45-75	4-15	0-20	NP-4
D7C: Hubbard-----	80	0-12	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		12-33	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		33-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
Sandberg-----	10	0-14	Loamy coarse sand	SP-SM, SM	A-1, A-2	0	0-1	85-100	80-95	40-75	10-25	0-20	NP-4
		14-32	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SP-SM, SP	A-2, A-3, A-1	0-3	0-5	75-95	50-95	35-70	4-25	0-20	NP-4
		32-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP, SW	A-1, A-2, A-3	0-3	0-5	60-95	50-90	30-65	2-10	0-15	NP
Mosford-----	10	0-13	Sandy loam	SM	A-2-4, A-4	0	0	100	85-100	50-85	25-55	0-25	NP-6
		13-16	Sandy loam, coarse sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0	100	85-100	55-85	25-55	0-25	NP-6
		16-35	Coarse sand, sand, loamy sand	SP-SM, SP	A-2-4, A-3	0	0	100	85-100	45-65	4-30	0-20	NP-4
		35-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1, A-3	0	0	95-100	50-100	45-75	4-15	0-20	NP-4



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D8B: Sandberg-----	95	0-14	Loamy coarse sand	SP-SM, SM	A-1, A-2	0	0-1	85-100	80-95	40-75	10-25	0-20	NP-4
		14-32	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SP-SM, SP	A-2, A-3, A-1	0-3	0-5	75-95	50-95	35-70	4-25	0-20	NP-4
		32-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP, SW	A-1, A-2, A-3	0-3	0-5	60-95	50-90	30-65	2-10	0-15	NP
Arvilla, MAP >25	5	0-14	Coarse sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	95-100	90-100	50-80	20-45	15-30	3-15
		14-17	Sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	90-100	85-100	50-80	20-45	15-35	3-15
		17-80	Gravelly coarse sand, coarse sand, very gravelly coarse sand	GP, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0	35-100	25-100	10-60	0-15	0-20	NP-4
D8C: Sandberg-----	80	0-14	Loamy coarse sand	SP-SM, SM	A-1, A-2	0	0-1	85-100	80-95	40-75	10-25	0-20	NP-4
		14-32	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SP-SM, SP	A-2, A-3, A-1	0-3	0-5	75-95	50-95	35-70	4-25	0-20	NP-4
		32-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP, SW	A-1, A-2, A-3	0-3	0-5	60-95	50-90	30-65	2-10	0-15	NP
Corliss-----	15	0-7	Loamy sand	SM, SP-SM	A-1-b, A-2-4	0	0-5	85-100	80-100	40-70	10-25	0-20	NP-4
		7-28	Loamy sand, gravelly sand, coarse sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0-5	75-95	50-85	35-70	2-25	0-20	NP-4
		28-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1-b, A-3	0	0-5	60-95	50-85	30-65	2-10	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D8C: Southhaven-----	5	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand, gravelly sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP
D8D: Sandberg-----	80	0-11	Loamy coarse sand	SP-SM, SM	A-1, A-2	0	0-1	85-100	80-95	40-75	10-25	0-20	NP-4
		11-27	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand, coarse sand	SP-SM, SP	A-2, A-1, A-3	0-3	0-5	75-95	50-95	35-70	4-25	0-20	NP-4
		27-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP, SW	A-1, A-2, A-3	0-3	0-5	60-95	50-90	30-65	2-10	0-15	NP
Corliss-----	10	0-7	Loamy sand	SM, SP-SM	A-1-b, A-2-4	0	0-5	85-100	80-100	40-70	10-25	0-20	NP-4
		7-28	Loamy sand, gravelly sand, coarse sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0-5	75-95	50-85	35-70	2-25	0-20	NP-4
		28-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1-b, A-3	0	0-5	60-95	50-85	30-65	2-10	0-15	NP
Southhaven-----	10	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand, gravelly sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D8E: Sandberg-----	80	0-11	Loamy coarse sand	SP-SM, SM	A-1, A-2	0	0-1	85-100	80-95	40-75	10-25	0-20	NP-4
		11-27	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand, coarse sand	SP-SM, SP	A-2, A-3, A-1	0-3	0-5	75-95	50-95	35-70	4-25	0-20	NP-4
		27-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP, SW	A-1, A-2, A-3	0-3	0-5	60-95	50-90	30-65	2-10	0-15	NP
Corliss-----	10	0-7	Loamy sand	SM, SP-SM	A-1-b, A-2-4	0	0-5	85-100	80-100	40-70	10-25	0-20	NP-4
		7-28	Loamy sand, gravelly sand, coarse sand	SP, SP-SM, SM	A-1-b, A-2-4, A-3	0	0-5	75-95	50-85	35-70	2-25	0-20	NP-4
		28-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1-b, A-3	0	0-5	60-95	50-85	30-65	2-10	0-15	NP
Southhaven-----	10	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand, gravelly sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP
D10A: Forada-----	95	0-10	Sandy loam	SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-5
		10-33	Fine sandy loam, loam, loamy fine sand	SM	A-4	0	0	100	100	70-100	35-50	20-35	NP-7
		33-60	Sand, coarse sand	SM, SP	A-2, A-3, A-1	0	0	85-100	85-100	35-70	2-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D10A: Depressional soil-----	5	0-19	Sandy loam	SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-5
		19-38	Fine sandy loam, loam, loamy fine sand	SM	A-4	0	0	100	100	70-100	35-50	20-35	NP-7
		38-60	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
D11A: Lindaas-----	80	0-16	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		16-32	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		32-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	40-55	20-35
Lindaas, sandy substratum-----	10	0-14	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		14-20	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		20-62	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	40-55	20-35
		62-80	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
Depressional soil-----	10	0-23	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		23-30	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		30-80	Silt loam, silty clay loam	CL, CH	A-6, A-7	0	0	100	100	95-100	85-95	40-55	20-35

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D12B:													
Bygland, MAP >25	70	0-9	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	30-35	7-15
		9-23	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	45-70	20-45
		23-27	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		27-80	Stratified silt loam to silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
Bygland, sandy substratum-----	15	0-14	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	30-35	7-15
		14-26	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	45-70	20-45
		26-38	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		38-63	Stratified silt loam to silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		63-80	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
Lindaas-----	10	0-16	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		16-32	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		32-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	40-55	20-35
Depressional soil-----	5	0-23	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		23-30	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		30-80	Silt loam, silty clay loam	CL, CH	A-6, A-7	0	0	100	100	95-100	85-95	40-55	20-35

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D12C2: Bygland, MAP >25	70	0-7	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	30-35	7-15
		7-20	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	45-70	20-45
		20-26	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		26-80	Stratified silt loam to silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
Bygland, sandy substratum-----	15	0-14	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	30-35	7-15
		14-26	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	45-70	20-45
		26-38	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		38-63	Stratified silt loam to silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		63-80	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
Lindaas-----	10	0-16	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		16-32	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		32-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	40-55	20-35
Depressional soil-----	5	0-23	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	40-45	20-25
		23-30	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-75	30-50
		30-80	Silt loam, silty clay loam	CL, CH	A-6, A-7	0	0	100	100	95-100	85-95	40-55	20-35

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D13A: Langola, terrace	85	0-15	Loamy fine sand	SM	A-2	0	0	100	100	55-70	15-30	0-20	NP-4
		15-31	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	100	65-85	10-20	0-20	NP-4
		31-39	Sandy loam, fine sandy loam, gravelly sandy loam	SC-SM, SM	A-4	0-2	0-3	85-95	70-90	55-75	40-50	15-22	3-9
		39-43	Sandy loam, fine sandy loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0-2	0-3	85-95	70-90	50-70	25-50	15-22	NP-6
		43-60	Sandy loam, fine sandy loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0-2	0-3	85-95	70-90	50-70	25-50	15-22	NP-6
Duelm-----	10	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-75	3-15	0-20	NP-4
Hubbard-----	5	0-20	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		20-32	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		32-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D13B:													
Langola, terrace	85	0-15	Loamy fine sand	SM	A-2	0	0	100	100	55-70	15-30	0-20	NP-4
		15-31	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	100	65-85	10-20	0-20	NP-4
		31-39	Sandy loam, fine sandy loam, gravelly sandy loam	SC-SM, SM	A-4	0-2	0-3	85-95	70-90	55-75	40-50	15-22	3-9
		39-43	Sandy loam, fine sandy loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0-2	0-3	85-95	70-90	50-70	25-50	15-22	NP-6
		43-60	Sandy loam, fine sandy loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0-2	0-3	85-95	70-90	50-70	25-50	15-22	NP-6
Hubbard-----	10	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
Duelm-----	5	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SM, SP, SP-SM	A-3, A-1, A-2	0	0	85-100	75-100	35-75	3-15	0-20	NP-4
D15A:													
Seelyeville, drained-----	65	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
		10-60	Muck, mucky peat	PT	A-8	0	0	---	---	---	---	---	---
Markey, drained	25	0-28	Muck	PT	A-8	---	---	---	---	---	---	---	---
		28-32	Fine sand, loamy sand, coarse sand	SM, SP, SP-SM	A-2, A-3	0	0	100	75-100	60-75	0-20	0-20	NP-4
		32-80	Fine sand, sand, coarse sand	SM, SP, SP-SM	A-2, A-3	0	0	100	75-100	60-75	0-20	0-20	NP-4



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D15A: Mineral soil, drained-----	10	0-18	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		18-29	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		29-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
D16A: Seelyeville, ponded-----	45	0-15	Muck	PT	A-8	0	0	---	---	---	---	---	---
		15-80	Muck, mucky peat	PT	A-8	0	0	---	---	---	---	---	---
Markey, ponded--	45	0-27	Muck	PT	A-8	---	---	---	---	---	---	---	---
		27-32	Fine sand, loamy sand, coarse sand	SM, SP, SP-SM	A-2, A-3	0	0	100	75-100	60-75	0-20	0-20	NP-4
		32-80	Fine sand, sand, coarse sand	SM, SP, SP-SM	A-2, A-3	0	0	100	75-100	60-75	0-20	0-20	NP-4
Mineral soil, ponded-----	10	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
D17A: Duelm-----	90	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-75	3-15	0-20	NP-4
Isan-----	8	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D17A: Hubbard-----	2	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-2-4, A-3, A-1	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
D18B: Braham, terrace	85	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-42	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		42-60	Sandy clay loam, loam, clay loam	SC, CL, ML	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Duelm-----	15	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-75	3-15	0-20	NP-4
D19A: Fordum, frequently flooded-----	65	0-7	Fine sandy loam	SC-SM, CL-ML, SM	A-1, A-2, A-4	0	0-5	80-100	75-100	45-95	20-65	0-30	NP-7
		7-28	Silt loam, sandy loam, gravelly loam	ML, SM	A-1, A-2, A-4	0	0-5	30-100	25-100	20-100	10-90	0-20	NP-4
		28-80	Sand, very gravelly loamy fine sand	GP, SM, SP	A-1, A-2, A-3	0	0-5	30-100	25-100	7-95	1-50	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D19A: Winterfield, frequently flooded-----	25	0-8	Loamy fine sand	SC-SM, SM	A-2-4, A-4	0	0	100	95-100	50-90	15-45	0-25	NP-7
		8-20	Sand, coarse sand, loamy sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2-4, A-3, A-4	0	0	100	95-100	50-90	2-45	0-25	NP-7
		20-80	Sand, gravelly sand, loamy fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0	85-100	70-100	35-80	0-35	0-20	NP-4
Fordum, occasionally flooded-----	10	0-9	Loam	CL, SC, SC-SM	A-4, A-6	0	0-5	80-100	75-100	55-100	45-85	20-35	5-15
		9-38	Silt loam, sandy loam, loam	ML, SM, SC, CL	A-1, A-2, A-4	0	0-5	80-100	75-100	45-100	20-90	15-30	3-10
		38-80	Stratified sand to silt loam	SP-SM, SP, SM, ML	A-1, A-2, A-4	0	0-5	80-100	75-100	35-100	4-50	0-30	NP-6
D20A: Isan-----	85	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
Isan, depressional---	10	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
Duelm-----	5	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SP-SM, SM, SP	A-1, A-2, A-3	0	0	85-100	75-100	35-75	3-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D21A: Isan, depressional---	85	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
Isan-----	15	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
D23A: Southhaven-----	90	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Sand, coarse sand, gravelly sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP
Dorset-----	5	0-11	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		11-19	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		19-32	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		32-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D23A: Mosford-----	5	0-13	Sandy loam	SM	A-2-4, A-4	0	0	100	85-100	50-85	25-55	0-25	NP-6
		13-16	Sandy loam, coarse sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0	100	85-100	55-85	25-55	0-25	NP-6
		16-35	Coarse sand, sand, loamy sand	SP, SP-SM	A-2-4, A-3	0	0	100	85-100	45-65	4-30	0-20	NP-4
		35-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1, A-3	0	0	95-100	50-100	45-75	4-15	0-20	NP-4
D24A: Sedgeville, occasionally flooded-----	85	0-15	Loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0-1	80-100	75-100	65-100	45-85	20-35	4-15
		15-45	Silt loam, sandy loam, loam	CL, SC-SM, SC, SM	A-1, A-2-4, A-4	0	0-1	80-100	75-100	35-100	20-90	15-30	3-10
		45-80	Sand, coarse sand, gravelly loamy coarse sand	SP, SM, SP-SM	A-1	0	0-1	80-100	50-100	15-25	1-20	0-10	NP
Elkriver, occasionally flooded-----	15	0-10	Fine sandy loam	ML, SM	A-4	0	0	100	85-100	50-95	30-65	0-25	NP-4
		10-26	Fine sandy loam, very fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		26-32	Very fine sandy loam, fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		32-80	Loamy fine sand, sand, gravelly sand	SM, SP-SM, SP	A-1-b, A-2-4, A-3	0	0	95-100	65-100	35-70	4-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D25A: Soderville, terrace-----	90	0-9	Loamy fine sand	SP-SM, SM	A-2	0	0	100	100	95-100	10-35	0-20	NP
		9-24	Fine sand, loamy fine sand	SM	A-2	0	0	100	100	95-100	8-35	0-20	NP
		24-31	Stratified loamy fine sand to fine sandy loam	SM	A-2	0	0	100	100	95-100	6-35	0-20	NP
		31-60	Fine sand, sand	SM, SP, SP-SM	A-2, A-3	0	0	100	85-100	85-100	2-20	0-10	NP
Forada-----	10	0-10	Sandy loam	SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-5
		10-33	Fine sandy loam, loam, loamy fine sand	SM	A-4	0	0	100	100	70-100	35-50	20-35	NP-7
		33-60	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
D26A: Foldahl, MAP >25	90	0-16	Loamy sand	SM, SC-SM	A-2	0	0	95-100	95-100	50-80	15-30	0-20	NP-6
		16-31	Loamy sand	SM	A-2	0	0	95-100	95-100	50-75	15-30	0-20	NP-4
		31-40	Stratified loamy sand to sandy clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	80-95	50-90	25-40	6-16
		40-60	Stratified loamy sand to sandy clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	80-95	50-90	25-40	6-16
Hubbard-----	5	0-20	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		20-32	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		32-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
Isan-----	5	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D27A: Dorset, loamy substratum-----	80	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-60	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		60-80	Loam, fine sandy loam, gravelly sandy loam	CL-ML, CL, SC, SC-SM	A-1-b, A-2, A-4	0	0-9	55-100	50-95	30-90	15-75	20-30	4-11
Dorset-----	15	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-2, A-1	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Southhaven-----	5	0-48	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	60-90	25-35	5-15
		48-62	Sandy clay loam, loam, sandy loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	45-85	35-65	25-40	5-20
		62-66	Loamy coarse sand, loamy sand	SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	0-20	NP-4
		66-80	Gravelly sand, coarse sand, sand	SW, SP	A-1-b	0	0	85-100	50-100	5-30	2-12	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D28B: Urban land-----	75	---	---	---	---	---	---	---	---	---	---	---	---
Bygland, MAP >25	20	0-9	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	30-35	7-15
		9-23	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	45-70	20-45
		23-27	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		27-80	Stratified silt loam to silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
Bygland, sandy substratum-----	5	0-14	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	30-35	7-15
		14-26	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	45-70	20-45
		26-38	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		38-63	Stratified silt loam to silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
		63-80	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
D29B: Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---
Hubbard, bedrock substratum-----	20	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-60	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
		60-80	Unweathered bedrock			---	---	---	---	---	---	---	---



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D29B:													
Hubbard-----	5	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
Mosford-----	5	0-13	Sandy loam	SM	A-2-4, A-4	0	0	100	85-100	50-85	25-55	0-25	NP-6
		13-16	Sandy loam, coarse sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0	100	85-100	55-85	25-55	0-25	NP-6
		16-35	Coarse sand, sand, loamy sand	SP, SP-SM	A-2-4, A-3	0	0	100	85-100	45-65	4-30	0-20	NP-4
		35-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1, A-3	0	0	95-100	50-100	45-75	4-15	0-20	NP-4
D30A:													
Seelyeville, surface drained	45	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
		10-80	Muck, mucky peat	PT	A-8	0	0	---	---	---	---	---	---
Markey, surface drained-----	45	0-36	Muck	PT	A-8	---	---	---	---	---	---	---	---
		36-42	Fine sand, loamy sand, coarse sand	SM, SP, SP-SM	A-2, A-3	0	0	100	75-100	60-75	0-20	0-20	NP-4
		42-80	Fine sand, sand, coarse sand	SM, SP, SP-SM	A-2, A-3	0	0	100	75-100	60-75	0-20	0-20	NP-4
Mineral soil, surface drained	10	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D31A: Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---
Duelm-----	20	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-2, A-3, A-1	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-75	3-15	0-20	NP-4
Hubbard-----	5	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
Isan-----	5	0-14	Sandy loam	SC-SM, SM	A-2	0	0	95-100	92-100	50-75	15-35	0-30	NP-7
		14-34	Sand, loamy sand	SM, SP-SM	A-2	0	0	95-100	92-100	50-75	10-30	0-20	NP-4
		34-80	Sand, coarse sand	SM, SP	A-1, A-2, A-3	0	0	85-100	85-100	35-70	2-15	0-20	NP-4
D33B: Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---
Dorset-----	20	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D33B: Verndale, acid substratum-----	5	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SW, SP-SM, SP	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4
Hubbard-----	5	0-20	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		20-32	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		32-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
D33C: Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---
Dorset-----	20	0-11	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		11-19	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		19-32	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		32-80	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
Verndale, acid substratum-----	5	0-10	Sandy loam	SM	A-2, A-4	0	0	100	85-100	60-85	25-45	0-20	NP-6
		10-19	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	98-100	85-100	60-85	25-45	15-30	4-7
		19-28	Sand, coarse sand, loamy coarse sand	SM, SW	A-2-4, A-3	0	0	98-100	85-100	50-65	4-20	0-20	NP-4
		28-80	Sand, coarse sand	SP-SM, SP, SW	A-1-b, A-2-4, A-3	0	0	96-100	75-100	45-60	3-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D33C:													
Hubbard-----	5	0-12	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		12-33	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		33-80	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
D34B:													
Urban land-----	75	---	---	---	---	---	---	---	---	---	---	---	---
Hubbard-----	20	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-80	Sand, coarse sand	SP, SW	A-1, A-3, A-2	0	0	95-100	85-100	20-70	2-5	0-15	NP
Mosford-----	5	0-13	Sandy loam	SM	A-2-4, A-4	0	0	100	85-100	50-85	25-55	0-25	NP-6
		13-16	Sandy loam, coarse sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0	100	85-100	55-85	25-55	0-25	NP-6
		16-35	Coarse sand, sand, loamy sand	SP, SP-SM	A-2-4, A-3	0	0	100	85-100	45-65	4-30	0-20	NP-4
		35-80	Coarse sand, sand, gravelly coarse sand	SP, SP-SM, SW	A-1, A-3	0	0	95-100	50-100	45-75	4-15	0-20	NP-4
D35A:													
Elkriver, occasionally flooded-----	70	0-10	Fine sandy loam	ML, SM	A-4	0	0	100	85-100	50-95	30-65	0-25	NP-4
		10-26	Fine sandy loam, very fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		26-32	Very fine sandy loam, fine sandy loam, loam	ML, SM	A-4	0	0	100	85-100	65-95	35-75	0-30	NP-6
		32-80	Loamy fine sand, sand, gravelly sand	SM, SP-SM, SP	A-1-b, A-2-4, A-3	0	0	95-100	65-100	35-70	4-15	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
D35A: Fordum, occasionally flooded-----	20	0-7	Fine sandy loam	SC-SM, CL-ML, SM	A-1, A-2, A-4	0	0-5	80-100	75-100	45-95	20-65	0-30	NP-7
		7-28	Silt loam, sandy loam, gravelly loam	ML, SM	A-1, A-2, A-4	0	0-5	30-100	25-100	20-100	10-90	0-20	NP-4
		28-80	Sand, very gravelly loamy fine sand	GP, SM, SP	A-1, A-2, A-3	0	0-5	30-100	25-100	7-95	1-50	0-15	NP-4
Udipsamments----	5	---	---	---	---	---	---	---	---	---	---	---	---
Winterfield, occasionally flooded-----	5	0-8	Loamy fine sand	SC-SM, SM	A-2-4, A-4	0	0	100	95-100	50-90	15-45	0-25	NP-7
		8-20	Sand, coarse sand, loamy sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2-4, A-3, A-4	0	0	100	95-100	50-90	2-45	0-25	NP-7
		20-80	Sand, gravelly sand, loamy fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0	85-100	70-100	35-80	0-35	0-20	NP-4
D37F: Dorset, bedrock substratum-----	70	0-12	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-50	0-25	NP-5
		12-20	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		20-27	Gravelly loamy sand, gravelly coarse sand, coarse sand	GM, SC-SM, SM	A-1, A-2	0	0-5	50-90	50-75	20-50	10-25	0-20	NP-7
		27-60	Gravelly coarse sand, gravelly sand, coarse sand	GP-GM, GP, SP-SM, SP	A-1	0	0-5	50-90	50-75	15-40	0-10	0-20	NP-4
		60-80	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	20	---	---	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D37F: Hubbard, bedrock substratum-----	10	0-18	Loamy sand	SM, SP-SM	A-2	0	0	98-100	95-100	50-80	10-25	0-20	NP-4
		18-23	Sand, coarse sand, loamy sand	SP-SM	A-1, A-2-4, A-3	0	0	98-100	95-100	25-75	5-12	0-20	NP-4
		23-60	Sand, coarse sand	SP, SW	A-1, A-2, A-3	0	0	95-100	85-100	20-70	2-5	0-15	NP
		60-80	Unweathered bedrock			---	---	---	---	---	---	---	---
D40A: Kratka, thick solum-----	80	0-10	Loamy fine sand	SM	A-2	0	0	95-100	90-100	50-80	15-35	0-20	NP-4
		10-30	Loamy sand, fine sand, sand	SP, SP-SM	A-2, A-3	0	0	95-100	90-100	50-80	4-10	0-20	NP-4
		30-60	Loam, clay loam, sandy loam	SC-SM, SC, CL, CL-ML	A-4, A-6	0	0-3	95-100	85-96	70-90	40-60	21-43	4-21
Duelm-----	10	0-16	Loamy sand	SM, SP-SM	A-1, A-2	0	0	90-100	85-100	35-75	10-25	15-20	NP-4
		16-30	Loamy sand, coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	85-100	35-75	5-25	15-20	NP-4
		30-80	Coarse sand, sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-75	3-15	0-20	NP-4
Foldahl, MAP >25	10	0-16	Loamy sand	SC-SM, SM	A-2	0	0	95-100	95-100	50-80	15-30	0-20	NP-6
		16-31	Loamy sand	SM	A-2	0	0	95-100	95-100	50-75	15-30	0-20	NP-4
		31-40	Stratified loamy sand to sandy clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	80-95	50-90	25-40	6-16
		40-60	Stratified loamy sand to sandy clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	80-95	50-90	25-40	6-16
D41C: Urban land-----	75	---	---	---	---	---	---	---	---	---	---	---	---
Waukon-----	20	0-8	Fine sandy loam	SM, SC-SM	A-4	0-1	0-3	95-100	90-100	60-70	35-50	15-25	1-7
		8-43	Clay loam, loam	CL, ML	A-6, A-7	0-1	0-3	95-100	90-100	75-95	50-85	30-45	7-20
		43-80	Loam, clay loam	ML, CL	A-6	0-1	0-3	95-100	90-100	70-95	50-80	30-40	7-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
D41C: Braham-----	5	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-42	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		42-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
D43A: Gonvick, terrace	85	0-12	Loam	ML, CL-ML, CL	A-4, A-6	0	0-3	95-100	90-100	85-95	50-75	20-40	3-20
		12-30	Loam, clay loam	CL	A-6, A-7	0	0-3	95-100	90-100	75-95	50-85	20-50	10-30
		30-60	Loam, clay loam	CL, CL-ML	A-4, A-6	0	0-3	95-100	90-100	70-95	50-80	15-40	5-20
Braham-----	15	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-42	Sandy clay loam, fine sandy loam, clay loam	CL, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	10-21
		42-60	Sandy clay loam, loam, clay loam	CL, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	10-21
GP. Pits, gravel- Udipsamments													

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L2B:													
Malardi-----	65	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy	CL, CL-ML,	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
			loam, coarse	SC, SC-SM									
			sandy loam										
		15-29	Coarse sand,	SC-SM, SM,	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
			loamy coarse	SP-SM									
			sand, gravelly										
			coarse sand										
		29-80	Sand, coarse	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
			sand, gravelly										
			sand										
Hawick-----	25	0-7	Sandy loam	SM	A-2	0-2	0-5	85-100	80-95	50-65	25-35	0-20	NP-4
		7-11	Gravelly loamy	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
			coarse sand,										
			gravelly										
			coarse sand,										
			loamy sand										
		11-80	Gravelly coarse	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP
			sand, coarse										
			sand, sand										
Rasset-----	5	0-15	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	0-5	90-100	75-100	50-70	30-50	0-30	NP-10
		15-28	Sandy loam,	SC, SC-SM, SM	A-4, A-6	0	0-5	90-100	75-100	50-80	35-50	0-35	NP-15
			loam										
		28-36	Loamy sand,	SM, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	75-100	50-100	40-80	2-15	0-20	NP-4
			loamy coarse										
			sand, gravelly										
			sand										
		36-80	Sand, coarse	SP-SM, SP, SW	A-1, A-2, A-3	0-1	0-5	60-100	50-100	25-75	2-8	0-20	NP-4
			sand, gravelly										
			sand										
Eden Prairie----	5	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam,	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
			fine sandy										
			loam										
		16-26	Fine sand,	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
			coarse sand,										
			loamy sand										
		26-80	Fine sand,	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
			coarse sand,										
			sand										



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L2C: Malardi-----	60	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Hawick-----	25	0-7	Sandy loam	SM	A-2	0-2	0-5	85-100	80-95	50-65	25-35	0-20	NP-4
		7-11	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		11-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP
Tomall-----	10	0-33	Loam	CL-ML, SM, SC	A-4	0	0	100	100	85-100	45-90	20-30	2-10
		33-42	Loam, sandy loam	SC, SM	A-4	0	0	100	95-100	85-100	45-90	20-30	2-10
		42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	80-100	50-95	25-65	4-20	0-20	NP
		47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-3, A-1, A-2	0	0	60-100	50-90	20-60	2-10	0-20	NP
Crowfork-----	5	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L2D:													
Malardi-----	55	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Hawick-----	30	0-7	Sandy loam	SM	A-2	0-2	0-5	85-100	80-95	50-65	25-35	0-20	NP-4
		7-11	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		11-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP
Tomall-----	10	0-33	Loam	CL-ML, SM, SC	A-4	0	0	100	100	85-100	45-90	20-30	2-10
		33-42	Loam, sandy loam	SC, SM	A-4	0	0	100	95-100	85-100	45-90	20-30	2-10
		42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	80-100	50-95	25-65	4-20	0-20	NP
		47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-20	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L2D: Crowfork-----	5	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP
L2E: Malardi-----	55	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-3, A-1, A-2	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Hawick-----	30	0-7	Sandy loam	SM	A-2	0-2	0-5	85-100	80-95	50-65	25-35	0-20	NP-4
		7-11	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		11-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L2E:													
Tomall-----	15	0-33	Loam	CL-ML, SM, SC	A-4	0	0	100	100	85-100	45-90	20-30	2-10
		33-42	Loam, sandy loam	SC, SM	A-4	0	0	100	95-100	85-100	45-90	20-30	2-10
		42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	80-100	50-95	25-65	4-20	0-20	NP
		47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-20	NP
L3A:													
Rasset-----	90	0-15	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	0-5	90-100	75-100	50-70	30-50	0-30	NP-10
		15-28	Sandy loam, loam	SC, SC-SM, SM	A-4, A-6	0	0-5	90-100	75-100	50-80	35-50	0-35	NP-15
		28-36	Loamy sand, loamy coarse sand, gravelly sand	SM, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	75-100	50-100	40-80	2-15	0-20	NP-4
		36-80	Sand, coarse sand, gravelly sand	SP-SM, SP, SW	A-1, A-2, A-3	0-1	0-5	60-100	50-100	25-75	2-8	0-20	NP-4
Malardi-----	8	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SM, SP-SM, SC-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L3A: Eden Prairie----	2	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
L3B: Rasset-----	80	0-15	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	0-5	90-100	75-100	50-70	30-50	0-30	NP-10
		15-28	Sandy loam, loam	SC, SC-SM, SM	A-4, A-6	0	0-5	90-100	75-100	50-80	35-50	0-35	NP-15
		28-36	Loamy sand, loamy coarse sand, gravelly sand	SM, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	75-100	50-100	40-80	2-15	0-20	NP-4
		36-80	Sand, coarse sand, gravelly sand	SP-SM, SP, SW	A-1, A-2, A-3	0-1	0-5	60-100	50-100	25-75	2-8	0-20	NP-4
Malardi-----	15	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Eden Prairie----	5	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SC, SM, SC-SM	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L4B: Crowfork-----	90	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-20	NP
Eden Prairie----	10	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
L4C: Crowfork-----	90	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP
Eden Prairie----	10	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L4D:													
Crowfork-----	85	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP
Eden Prairie----	15	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
L6A:													
Biscay-----	85	0-20	Loam	ML, CL	A-7, A-6	0	0	95-100	95-100	70-95	50-80	35-50	10-25
		20-28	Loam, clay loam, sandy clay loam	ML, CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-50	10-20
		28-36	Gravelly loam, sandy loam, gravelly sandy loam	SM, SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	0-30	NP-10
		36-60	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L6A: Biscay, depressional---	10	0-23	Loam	CL, ML	A-6, A-7	0	0	95-100	95-100	70-95	50-80	35-50	10-25
		23-28	Loam, clay loam, sandy clay loam	ML, CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-50	10-20
		28-36	Gravelly loam, sandy loam, gravelly sandy loam	SM, SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	0-30	NP-10
		36-60	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
Mayer-----	5	0-18	Loam	CL	A-4, A-6	0	0-2	95-100	85-100	70-90	50-85	30-35	9-20
		18-33	Sandy clay loam, silt loam, clay loam	CL, SM, SC	A-4, A-6	0	0-2	80-95	80-85	70-85	35-65	30-35	3-20
		33-80	Gravelly coarse sand, sand, coarse sand	SP-SM, SW, SP	A-1	0-1	0-10	50-95	45-85	20-45	2-10	0-20	NP-4
L7A: Biscay, depressional---	80	0-23	Loam	ML, CL	A-6, A-7	0	0	95-100	95-100	70-95	50-80	35-50	10-25
		23-28	Loam, clay loam, sandy clay loam	ML, CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-50	10-20
		28-36	Gravelly loam, sandy loam, gravelly sandy loam	SM, SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	0-30	NP-10
		36-60	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L7A: Biscay-----	15	0-20	Loam	CL, ML	A-6, A-7	0	0	95-100	95-100	70-95	50-80	35-50	10-25
		20-28	Loam, clay loam, sandy clay loam	ML, CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-50	10-20
		28-36	Gravelly loam, sandy loam, gravelly sandy loam	SM, SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	0-30	NP-10
		36-60	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
Mayer-----	5	0-18	Loam	CL	A-4, A-6	0	0-2	95-100	85-100	70-90	50-85	30-35	9-20
		18-33	Sandy clay loam, silt loam, clay loam	CL, SM, SC	A-4, A-6	0	0-2	80-95	80-85	70-85	35-65	30-35	3-20
		33-80	Gravelly coarse sand, sand, coarse sand	SP-SM, SW, SP	A-1	0-1	0-10	50-95	45-85	20-45	2-10	0-20	NP-4
L8A: Darfur-----	95	0-16	Sandy loam	SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-5
		16-32	Fine sandy loam, sandy clay loam, loamy fine sand	SC-SM, SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-7
		32-80	Stratified sand to loamy fine sand to fine sandy loam	SM	A-2, A-4	0	0	100	100	50-100	15-40	0-20	NP
Dassel-----	5	0-14	Fine sandy loam	SM	A-4	0	0	100	95-100	70-85	40-50	15-30	NP-4
		14-31	Stratified loamy fine sand to fine sandy loam	SM	A-2, A-4	0	0	100	95-100	55-80	25-50	15-30	NP-4
		31-80	Stratified coarse sand to loamy sand	SM	A-2	0	0	100	80-100	45-90	10-55	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L9A:													
Minnetonka-----	90	0-13	Silty clay loam	MH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
		13-35	Silty clay, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-65	15-35
		35-60	Silty clay loam, silt loam, clay loam	CL, ML, MH	A-6, A-7	0	0	95-100	85-100	75-100	60-95	30-55	10-25
Depressional soil-----	10	0-16	Silty clay loam	MH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
		16-42	Silty clay, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-65	15-35
		42-60	Silty clay loam, silt loam, clay loam	CL, ML, MH	A-6, A-7	0	0	95-100	85-100	75-100	60-95	30-55	10-25
L10B:													
Kasota-----	80	0-10	Silty clay loam	CL	A-7, A-6	0	0	95-100	85-100	75-95	75-90	35-50	11-25
		10-28	Clay loam, clay, silty clay	CH, CL	A-7	0	0	95-100	85-100	80-95	65-90	45-75	20-45
		28-32	Sand, fine sand, gravelly sand	SM, SP-SM	A-1, A-2, A-3	0	0	85-100	65-100	40-75	5-18	0-20	NP-4
		32-60	Gravelly coarse sand, sand, coarse sand	SP, SP-SM, SW	A-1, A-2, A-3	0	0-3	85-100	65-100	20-65	2-10	0-20	NP-4
Eden Prairie----	10	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L10B: Wet soil in swales-----	10	0-13	Silty clay loam	MH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
		13-35	Silty clay, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-65	15-35
		35-60	Silty clay loam, silt loam, clay loam	CL, ML, MH	A-6, A-7	0	0	95-100	85-100	75-100	60-95	30-55	10-25
		60-80	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
L11B: Grays-----	90	0-7	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		7-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-90	30-45	15-25
		25-60	Stratified very fine sandy loam to silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	0-40	NP-15
Kasota-----	5	0-10	Silty clay loam	CL	A-6, A-7	0	0	95-100	85-100	75-95	75-90	35-50	11-25
		10-28	Clay loam, clay, silty clay	CH, CL	A-7	0	0	95-100	85-100	80-95	65-90	45-75	20-45
		28-32	Gravelly sand, sand, fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	85-100	65-100	40-75	5-18	0-20	NP-4
		32-60	Gravelly coarse sand, sand, coarse sand	SP, SP-SM, SW	A-1, A-2, A-3	0	0-3	85-100	65-100	20-65	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L11B:													
Crowfork-----	5	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-20	NP
L12A:													
Muskego, frequently flooded-----	30	0-9	Muck	PT	A-8	0	0	---	---	---	---	---	---
		9-36	Muck	PT	A-8	0	0	---	---	---	---	---	---
		36-60	Coprogenous earth	OL	A-5	0	0	95-100	95-100	85-100	75-96	40-50	2-8
Blue Earth, frequently flooded-----	30	0-50	Silt loam	OL	A-5	0	0	95-100	95-100	85-95	80-95	41-50	2-8
		50-60	Silty clay loam, clay loam, silt loam	OL	A-5	0	0	95-100	80-100	80-95	80-95	41-50	2-8
Houghton, frequently flooded-----	30	0-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
Oshawa, frequently flooded-----	10	0-12	Silt loam	ML, OL, CL	A-4, A-6	0	0	95-100	95-100	90-100	85-95	30-40	5-15
		12-60	Loam, silt loam, silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	85-95	30-40	10-15

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L13A: Klossner, drained-----	80	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-36	Mucky silt loam, mucky silty clay loam, silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		36-48	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		48-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
Mineral soil, drained-----	15	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
		31-45	Sandy loam, clay loam, silty clay loam	SC, CL	A-4, A-6	0	0	90-100	85-100	60-95	45-90	30-40	5-20
		45-80	Sandy loam, clay loam, loam	SM, SC, CL	A-4, A-6	0-1	0-2	85-100	75-95	60-90	40-90	25-40	3-20
Houghton, drained-----	5	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
		10-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
L14A: Houghton, drained-----	80	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
		10-80	Muck	PT	A-8	0	0	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L14A: Klossner, drained-----	10	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-36	Mucky silt loam, mucky silty clay loam, silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		36-48	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		48-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
Mineral soil, drained-----	10	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
		31-45	Sandy loam, clay loam, silty clay loam	SC, CL	A-4, A-6	0	0	90-100	85-100	60-95	45-90	30-40	5-20
		45-80	Sandy loam, clay loam, loam	SM, SC, CL	A-4, A-6	0-1	0-2	85-100	75-95	60-90	40-90	25-40	3-20
L15A: Klossner, ponded	30	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-33	Silt loam, silty clay loam, mucky silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		33-40	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		40-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10	4	10	40	200		
						inches	inches						
		In				Pct	Pct					Pct	
L15A: Okoboji, ponded	30	0-10	Mucky silty clay loam	MH	A-7	0	0	100	100	95-100	90-95	60-90	10-30
		10-52	Silty clay loam, silty clay	CH	A-7	0	0	100	100	90-100	80-95	55-65	30-40
		52-60	Silty clay loam, silty clay	CH	A-7	0	0	95-100	95-100	90-100	80-95	55-65	30-40
Glencoe, ponded	30	0-42	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-55	10-25
		42-50	Loam, clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Houghton, ponded	10	0-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
L16A: Muskego, ponded	30	0-9	Muck	PT	A-8	0	0	---	---	---	---	---	---
		9-36	Muck	PT	A-8	0	0	---	---	---	---	---	---
		36-60	Coprogenous earth	OL	A-5	0	0	95-100	95-100	85-100	75-96	40-50	2-8
Blue Earth, ponded-----	30	0-50	Silt loam	OL	A-5	0	0	95-100	95-100	85-95	80-95	41-50	2-8
		50-60	Silty clay loam, clay loam, silt loam	OL	A-5	0	0	95-100	80-100	80-95	80-95	41-50	2-8
Houghton, ponded	30	0-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
Klossner, ponded	10	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-33	Silt loam, silty clay loam, mucky silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		33-40	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		40-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L17B: Angus-----	50	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Malardi-----	30	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SM, SP-SM, SC-SM	A-2, A-3, A-1	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Moon-----	10	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SP-SM, SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Cordova-----	10	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L18A: Shields-----	85	0-8	Silty clay loam	CL, ML	A-6, A-7	0	0	95-100	95-100	90-100	85-95	35-50	12-20
		8-41	Silty clay, clay	CL, CH, MH	A-7	0	0	95-100	95-100	90-100	85-95	45-70	20-35
		41-80	Silty clay loam, clay loam, clay	MH, CL, ML	A-6, A-7	0	0	95-100	90-100	85-100	80-95	35-65	12-30

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L18A: Lerdal-----	10	0-9	Silty clay loam	ML, CL	A-6, A-7	0	0	95-100	90-100	80-95	60-90	35-50	12-20
		9-42	Silty clay, clay loam, silty clay loam	CL, CH, MH	A-7	0	0	95-100	90-100	80-95	70-90	45-70	20-35
		42-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Mazaska-----	5	0-15	Silty clay loam	CL, CH	A-6, A-7	0	0	95-100	95-100	85-100	70-95	35-55	12-28
		15-42	Clay, silty clay loam	CH, CL	A-7	0	0	90-100	85-100	75-95	60-90	40-65	15-35
		42-80	Loam, clay loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L19B: Moon-----	85	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Finchford-----	15	0-18	Loamy sand	SM	A-3, A-2	0	0	90-95	85-90	50-60	5-15	0-20	NP-4
		18-30	Sand, loamy sand, gravelly sand	SW-SM	A-1	0	0	80-90	50-75	25-40	5-10	0-20	NP-4
		30-60	Gravelly sand, gravelly coarse sand, sand	SP-SM, SW-SM, SW, SP	A-1	0	0	75-95	50-95	20-35	3-5	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L20B: Fedji, silty substratum-----	85	0-10	Loamy fine sand	SM	A-2	0	0	100	95-100	50-75	15-30	0-20	NP-4
		10-30	Loamy fine sand, sand, loamy sand	SP-SM, SM	A-2	0	0	100	95-100	50-75	10-30	0-20	NP-4
		30-39	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	28-43	10-21
		39-60	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-95	21-39	3-18
Finchford-----	15	0-18	Loamy sand	SM	A-3, A-2	0	0	90-95	85-90	50-60	5-15	0-20	NP-4
		18-30	Sand, loamy sand, gravelly sand	SW-SM	A-1	0	0	80-90	50-75	25-40	5-10	0-20	NP-4
		30-60	Gravelly sand, gravelly coarse sand, sand	SW-SM, SW, SP-SM, SP	A-1	0	0	75-95	50-95	20-35	3-5	0-15	NP
L21A: Canisteo-----	80	0-17	Loam	CL	A-6	0	0	95-100	95-100	85-100	60-100	30-40	12-20
		17-36	Clay loam, loam	CL	A-6	0	0-5	90-100	80-95	60-95	50-85	30-40	15-20
		36-80	Loam, clay loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Cordova-----	15	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe-----	5	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		31-45	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	10-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L22C2:													
Lester, eroded--	70	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Angus-----	15	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	12	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	3	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L22D2:													
Lester, eroded--	80	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	10	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL-ML, CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	5	0-24	Loam	CL, ML	A-6, A-4	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	5	0-23	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		23-38	Loam, clay loam	CL, CL-ML	A-6, A-7	0	0-3	95-100	90-100	70-90	60-80	25-45	5-20
		38-50	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L22E:													
Lester, morainic	75	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	15	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	5	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		22-41	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	5	0-32	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
L22F:													
Lester, morainic	75	0-5	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	10	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	10	0-32	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
Hamel-----	5	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		22-41	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L23A:													
Cordova-----	85	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe, depressional---	10	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		31-45	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	10-20
Nessel-----	5	0-6	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	95-100	85-95	50-80	20-35	4-12
		6-38	Loam, clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	55-75	35-50	15-25
		38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L24A:													
Glencoe-----	90	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		31-45	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	10-20
Cordova-----	10	0-13	Loam	CL	A-6, A-4	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L25A:													
Le Sueur-----	80	0-17	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	70-85	20-40	5-15
		17-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-100	60-80	35-50	15-25
		36-46	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L25A: Cordova-----	15	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Angus-----	5	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L26A: Shorewood-----	85	0-17	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	90-100	85-100	35-50	12-20
		17-39	Silty clay, silty clay loam	CH, MH	A-7	0	0	100	100	90-100	85-100	55-75	20-45
		39-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Minnetonka-----	10	0-13	Silty clay loam	MH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
		13-35	Silty clay, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-65	15-35
		35-60	Silty clay loam, silt loam, clay loam	CL, ML, MH	A-6, A-7	0	0	95-100	85-100	75-100	60-95	30-55	10-25
Good Thunder----	5	0-15	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	90-100	85-100	35-50	12-20
		15-32	Silty clay, silty clay loam	CH	A-7	0	0	100	100	90-100	85-100	45-75	20-40
		32-80	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	85-100	25-50	5-20
L26B: Shorewood-----	90	0-17	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	90-100	85-100	35-50	12-20
		17-39	Silty clay, silty clay loam	CH, MH	A-7	0	0	100	100	90-100	85-100	55-75	20-45
		39-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L26B: Good Thunder----	5	0-15	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	90-100	85-100	35-50	12-20
		15-32	Silty clay, silty clay loam	CH	A-7	0	0	100	100	90-100	85-100	45-75	20-40
		32-80	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	85-100	25-50	5-20
Minnetonka-----	5	0-13	Silty clay loam	MH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
		13-35	Silty clay, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-65	15-35
		35-60	Silty clay loam, silt loam, clay loam	CL, ML, MH	A-6, A-7	0	0	95-100	85-100	75-100	60-95	30-55	10-25
L26C2: Shorewood, eroded-----	95	0-17	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	90-100	85-100	35-50	12-20
		17-39	Silty clay, silty clay loam	CH, MH	A-7	0	0	100	100	90-100	85-100	55-75	20-45
		39-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Minnetonka-----	5	0-13	Silty clay loam	MH, CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
		13-35	Silty clay, silty clay loam	CL, CH	A-7	0	0	95-100	95-100	90-98	85-95	40-65	15-35
		35-60	Silty clay loam, silt loam, clay loam	CL, ML, MH	A-6, A-7	0	0	95-100	85-100	75-100	60-95	30-55	10-25
L27A: Suckercreek, frequently flooded-----	85	0-22	Loam	CL-ML, CL	A-4	0	0	100	100	85-95	50-85	15-30	5-10
		22-80	Loam, sandy loam, loamy fine sand	SM, SC	A-2, A-4	0	0	95-100	85-100	65-90	20-70	0-30	NP-10



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L27A: Suckercreek, occasionally flooded-----	10	0-12	Fine sandy loam	CL-ML, SM	A-4	0	0	100	100	85-95	45-85	15-25	NP-7
		12-80	Loam, fine sandy loam, loamy fine sand	SC, SM	A-2, A-4	0	0	95-100	85-100	65-90	20-70	0-30	NP-10
Hanlon, occasionally flooded-----	5	0-40	Fine sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		40-63	Fine sandy loam, sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		63-70	Sandy loam, fine sandy loam, loamy fine sand	SC, SC-SM	A-2, A-4	0	0	100	100	75-80	25-40	15-25	5-10
		70-80	Stratified sand to loamy fine sand to fine sandy loam, sandy loam, loamy sand	SP-SM, CL, SC, SC-SM	A-2, A-4	0	0	100	100	80-90	5-60	15-35	3-10
L28A: Suckercreek, occasionally flooded-----	80	0-12	Fine sandy loam	CL-ML, SM	A-4	0	0	100	100	85-95	45-85	15-25	NP-7
		12-80	Loam, fine sandy loam, loamy fine sand	SC, SM	A-2, A-4	0	0	95-100	85-100	65-90	20-70	0-30	NP-10
Suckercreek, frequently flooded-----	10	0-22	Loam	CL-ML, CL	A-4	0	0	100	100	85-95	50-85	15-30	5-10
		22-80	Loam, sandy loam, loamy fine sand	SC, SM	A-4, A-2	0	0	95-100	85-100	65-90	20-70	0-30	NP-10

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L28A: Hanlon, occasionally flooded-----	10	0-40	Fine sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		40-63	Fine sandy loam, sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		63-70	Sandy loam, fine sandy loam, loamy fine sand	SC, SC-SM	A-2, A-4	0	0	100	100	75-80	25-40	15-25	5-10
		70-80	Stratified sand to loamy fine sand to fine sandy loam, sandy loam, loamy sand	SP-SM, CL, SC, SC-SM	A-2, A-4	0	0	100	100	80-90	5-60	15-35	3-10
L29A: Hanlon, occasionally flooded-----	80	0-40	Fine sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		40-63	Fine sandy loam, sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		63-70	Sandy loam, fine sandy loam, loamy fine sand	SC, SC-SM	A-2, A-4	0	0	100	100	75-80	25-40	15-25	5-10
		70-80	Stratified sand to loamy fine sand to fine sandy loam, sandy loam, loamy sand	SP-SM, CL, SC, SC-SM	A-2, A-4	0	0	100	100	80-90	5-60	15-35	3-10
Suckercreek, occasionally flooded-----	10	0-12	Fine sandy loam	CL-ML, SM	A-4	0	0	100	100	85-95	45-85	15-25	NP-7
		12-80	Loam, fine sandy loam, loamy fine sand	SC, SM	A-2, A-4	0	0	95-100	85-100	65-90	20-70	0-30	NP-10

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L29A: Suckercreek, frequently flooded-----	10	0-22	Loam	CL-ML, CL	A-4	0	0	100	100	85-95	50-85	15-30	5-10
		22-80	Loam, sandy loam, loamy fine sand	SC, SM	A-4, A-2	0	0	95-100	85-100	65-90	20-70	0-30	NP-10
L30A: Medo, surface drained-----	65	0-27	Muck	PT	A-8	---	---	---	---	---	---	---	---
		27-35	Sandy clay loam, mucky loam, silt loam	CL, ML	A-6, A-7	0	0	85-100	75-100	55-95	45-85	35-50	7-22
		35-39	Sandy clay loam	SC, CL	A-6, A-7	0	0	85-100	75-100	55-95	45-85	30-65	8-16
		39-80	Sand, gravelly coarse sand, gravelly loamy coarse sand, fine sand	SP, SP-SM, SM	A-1, A-2, A-3, A-4	0-2	0-5	75-95	60-95	20-75	2-40	0-20	NP-4
Medo, drained---	20	0-27	Muck	PT	A-8	---	---	---	---	---	---	---	---
		27-35	Sandy clay loam, mucky loam, silt loam	CL, ML	A-6, A-7	0	0	85-100	75-100	55-95	45-85	35-50	7-22
		35-39	Sandy clay loam	CL, SC	A-6, A-7	0	0	85-100	75-100	55-95	45-85	30-65	8-16
		39-80	Sand, gravelly coarse sand, gravelly loamy coarse sand, fine sand	SP, SP-SM, SM	A-1, A-2, A-3, A-4	0-2	0-5	75-95	60-95	20-75	2-40	0-20	NP-4
Mineral soil, drained-----	15	0-23	Fine sandy loam	SM	A-4	0	0	100	95-100	70-85	40-50	0-30	NP-4
		23-31	Stratified loamy fine sand to fine sandy loam	SM	A-2, A-4	0	0	100	95-100	55-80	25-50	0-30	NP-4
		31-60	Stratified coarse sand to loamy sand	SM, SP-SM, SP	A-2	0	0	100	80-100	45-90	4-55	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10	4	10	40	200		
						inches	inches						
		In				Pct	Pct					Pct	
L31A: Medo, ponded----	30	0-20	Muck	PT	A-8	---	---	---	---	---	---	---	---
		20-34	Loam, sandy clay loam, mucky loam, silt loam	CL, ML	A-6, A-7	0	0	85-100	75-100	55-95	45-85	35-50	7-22
		34-60	Sand, gravelly coarse sand, gravelly loamy coarse sand, fine sand	SP, SP-SM, SM	A-1, A-2, A-3, A-4	0-2	0-5	75-95	60-95	20-75	2-40	0-20	NP-4
Dassel, ponded--	30	0-23	Fine sandy loam	SM	A-4	0	0	100	95-100	70-85	40-50	0-30	NP-4
		23-31	Stratified loamy fine sand to fine sandy loam	SM	A-2, A-4	0	0	100	95-100	55-80	25-50	0-30	NP-4
		31-60	Stratified coarse sand to loamy sand	SM, SP-SM, SP	A-2	0	0	100	80-100	45-90	4-55	0-15	NP
Biscay, ponded--	30	0-24	Loam	CL, ML	A-6, A-7	0	0	95-100	95-100	70-90	50-75	35-50	10-25
		24-29	Loam, clay loam, sandy clay loam	CL, ML	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-50	10-20
		29-60	Stratified very gravelly coarse sand to loamy sand	GP, GP-GM, SP, SP-SM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-4
Houghton, ponded	5	0-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
Muskego, ponded	5	0-9	Muck	PT	A-8	0	0	---	---	---	---	---	---
		9-36	Muck	PT	A-8	0	0	---	---	---	---	---	---
		36-60	Coprogenous earth	OL	A-5	0	0	95-100	95-100	85-100	75-96	40-50	2-8

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L32D: Hawick-----	75	0-11	Loamy sand	SM	A-2	0	0	85-95	70-90	50-60	5-15	0-20	NP-4
		11-15	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		15-80	Stratified gravelly coarse sand to sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP
Crowfork-----	15	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-19	Fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		19-54	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		54-60	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP
Tomall-----	10	0-33	Loam	CL-ML, SM, SC	A-4	0	0	100	100	85-100	45-90	20-30	2-10
		33-42	Loam, sandy loam	SC, SM	A-4	0	0	100	95-100	85-100	45-90	20-30	2-10
		42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	80-100	50-95	25-65	4-20	0-20	NP
		47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-20	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L32F: Hawick-----	75	0-11	Loamy sand	SM	A-2	0	0	85-95	70-90	50-60	5-15	0-20	NP-4
		11-15	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		15-80	Stratified gravelly coarse sand to sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP
Crowfork-----	15	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-19	Fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		19-54	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		54-60	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP
Tomall-----	10	0-33	Loam	CL-ML, SM, SC	A-4	0	0	100	100	85-100	45-90	20-35	2-10
		33-42	Loam, sandy loam	SC, SM	A-4	0	0	100	95-100	85-100	45-90	20-30	2-10
		42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	80-100	50-95	25-65	4-20	0-20	NP
		47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-20	NP
L35A: Lerdal-----	80	0-13	Loam	ML, CL	A-6	0	0	95-100	90-100	80-95	55-75	30-40	6-15
		13-47	Silty clay, clay loam, silty clay loam	CL, CH, MH	A-7	0	0	95-100	90-100	80-95	70-90	45-70	20-35
		47-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L35A: Mazaska-----	10	0-15	Silty clay loam	CL, CH	A-6, A-7	0	0	95-100	95-100	85-100	70-95	35-55	12-28
		15-42	Clay, silty clay loam	CH, CL	A-7	0	0	90-100	85-100	75-95	60-90	40-65	15-35
		42-80	Loam, clay loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Cordova-----	5	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Le Sueur-----	5	0-17	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	70-85	20-40	5-15
		17-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-100	60-80	35-50	15-25
		36-46	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L36A: Hamel, overwash	50	0-13	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		13-29	Loam, clay loam	ML, CL	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		29-50	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	43	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	5	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe-----	2	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		31-45	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	10-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L37B:													
Angus, morainic	80	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Angus, eroded---	10	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-58	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		58-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Le Sueur-----	5	0-17	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	70-85	20-40	5-15
		17-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-100	60-80	35-50	15-25
		36-46	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Cordova-----	5	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L38A:													
Rushriver, occasionally flooded-----	75	0-46	Very fine sandy loam	SC-SM, SM	A-4	0	0	95-100	75-90	45-75	30-45	0-28	NP-9
		46-80	Stratified coarse sand to silt loam	CL-ML, SC-SM, SM, SP	A-3, A-4, A-1, A-2	0	0-2	95-100	90-100	40-80	4-60	10-20	NP-5
Oshawa, frequently flooded-----	15	0-12	Silt loam	ML, OL, CL	A-4, A-6	0	0	95-100	95-100	90-100	85-95	30-40	5-15
		12-60	Loam, silt loam, silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	85-95	30-40	10-15



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L38A: Minneiska, occasionally flooded-----	5	0-10	Fine sandy loam	SM	A-4	0	0	100	95-100	50-70	35-50	15-20	NP-4
		10-60	Stratified sand to silt loam	SM, ML	A-4	0	0	100	85-100	50-90	35-60	15-20	NP-4
Algansee, occasionally flooded-----	5	0-6	Loamy sand	SC-SM, SM	A-2-4	0	0	100	100	50-75	15-35	0-25	NP-5
		6-60	Stratified sand to loam	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	5-35	0-14	NP
L39A: Minneiska, occasionally flooded-----	70	0-10	Fine sandy loam	SM	A-4	0	0	100	95-100	50-70	35-50	15-20	NP-4
		10-60	Stratified sand to silt loam	SM, ML	A-4	0	0	100	85-100	50-90	35-60	15-20	NP-4
Rushriver, occasionally flooded-----	15	0-46	Very fine sandy loam	SC-SM, SM	A-4	0	0	95-100	75-90	45-75	30-45	0-28	NP-9
		46-80	Stratified coarse sand to silt loam	CL-ML, SC-SM, SM, SP	A-1, A-2, A-3, A-4	0	0-2	95-100	90-100	40-80	4-60	10-20	NP-5
Oshawa, frequently flooded-----	10	0-12	Silt loam	ML, OL, CL	A-4, A-6	0	0	95-100	95-100	90-100	85-95	30-40	5-15
		12-60	Loam, silt loam, silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	85-95	30-40	10-15
Algansee, occasionally flooded-----	5	0-6	Loamy sand	SC-SM, SM	A-2-4	0	0	100	100	50-75	15-35	0-25	NP-5
		6-60	Stratified sand to loam	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	5-35	0-14	NP
L40B: Angus-----	45	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L40B:													
Kilkenny-----	40	0-11	Clay loam	ML, CL	A-6, A-7	0	0	95-100	95-100	80-95	70-85	35-50	10-25
		11-35	Clay loam, clay, silty clay loam	CH, MH	A-7	0	0	95-100	90-100	80-95	65-80	50-70	25-35
		35-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Lerdal-----	10	0-8	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-95	60-90	35-50	10-22
		8-12	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-95	60-90	35-50	10-22
		12-41	Silty clay loam, clay loam	CL, CH, MH	A-7	0	0	95-100	90-100	80-95	70-90	45-70	20-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Mazaska-----	5	0-15	Silty clay loam	CL, CH	A-6, A-7	0	0	95-100	95-100	85-100	70-95	35-55	12-28
		15-42	Clay, silty clay loam	CH, CL	A-7	0	0	90-100	85-100	75-95	60-90	40-65	15-35
		42-80	Loam, clay loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L41C2:													
Lester, eroded--	45	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Kilkenny, eroded	40	0-9	Clay loam	ML, CL	A-6, A-7	0	0	95-100	95-100	80-95	70-85	35-50	10-25
		9-53	Clay loam, clay, silty clay loam	CH, MH	A-7	0	0	95-100	90-100	80-95	65-80	50-70	25-35
		53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	10	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Derrynane-----	5	0-19	Clay loam	CH, CL	A-7	0	0	100	95-100	80-90	75-90	46-56	25-33
		19-39	Silty clay, silty clay loam, clay loam	CH, CL	A-6, A-7	0	0	100	95-100	85-95	70-90	40-65	20-35
		39-65	Clay loam	CL	A-7	0	0	95-100	95-100	85-95	70-90	43-50	22-28
		65-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L41D2:													
Lester, eroded--	45	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Kilkenny, eroded	35	0-9	Clay loam	ML, CL	A-6, A-7	0	0	95-100	95-100	80-95	70-85	35-50	10-25
		9-53	Clay loam, clay, silty clay loam	CH, MH	A-7	0	0	95-100	90-100	80-95	65-80	50-70	25-35
		53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	10	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Derrynane-----	5	0-19	Clay loam	CH, CL	A-7	0	0	100	95-100	80-90	75-90	46-56	25-33
		19-39	Silty clay, silty clay loam, clay loam	CH, CL	A-6, A-7	0	0	100	95-100	85-95	70-90	40-65	20-35
		39-65	Clay loam	CL	A-7	0	0	95-100	95-100	85-95	70-90	43-50	22-28
		65-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	5	0-23	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		23-38	Loam, clay loam	CL, CL-ML	A-6, A-7	0	0-3	95-100	90-100	70-90	60-80	25-45	5-20
		38-50	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L41E:													
Lester-----	45	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Kilkenny-----	40	0-7	Clay loam	ML, CL	A-6, A-7	0	0	95-100	95-100	80-95	70-85	35-50	10-25
		7-31	Clay loam, clay, silty clay loam	CH, MH	A-7	0	0	95-100	90-100	80-95	65-80	50-70	25-35
		31-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	5	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L42B: Kingsley-----	70	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Gotham-----	25	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
Grays-----	5	0-7	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		7-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-90	30-45	15-25
		25-60	Stratified very fine sandy loam to silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	0-40	NP-15
L42C: Kingsley-----	70	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L42C: Gotham-----	25	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
Grays-----	5	0-7	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		7-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-90	30-45	15-25
		25-60	Stratified very fine sandy loam to silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	0-40	NP-15
L42D: Kingsley-----	70	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Gotham-----	25	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SM, SP-SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L42D: Grays-----	5	0-7	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		7-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-90	30-45	15-25
		25-60	Stratified very fine sandy loam to silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	0-40	NP-15
L42E: Kingsley-----	70	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Gotham-----	25	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
Grays-----	5	0-7	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		7-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-90	30-45	15-25
		25-60	Stratified very fine sandy loam to silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	0-40	NP-15

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L42F: Kingsley-----	70	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Gotham-----	25	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP, SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
Grays-----	5	0-7	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		7-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-90	30-45	15-25
		25-60	Stratified very fine sandy loam to silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	0-40	NP-15
L43A: Brouillett, occasionally flooded-----	80	0-14	Loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-100	65-95	20-35	NP-12
		14-36	Silt loam, loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	90-100	90-100	70-100	55-95	22-45	3-20
		36-44	Silt loam, loam, clay loam	CL, CL-ML	A-6	0	0	90-100	90-100	70-100	55-95	20-40	3-20
		44-60	Stratified loamy very fine sand to silt loam	CL, ML, SC-SM	A-2-4, A-4, A-6	0	0	85-100	80-100	60-100	25-100	10-35	NP-12



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L43A: Minneiska, occasionally flooded-----	10	0-10	Fine sandy loam	SM	A-4	0	0	100	95-100	50-70	35-50	15-20	NP-4
		10-60	Stratified sand to silt loam	SM, ML	A-4	0	0	100	85-100	50-90	35-60	15-20	NP-4
Rushriver, occasionally flooded-----	10	0-46	Very fine sandy loam	SC-SM, SM	A-4	0	0	95-100	75-90	45-75	30-45	0-28	NP-9
		46-80	Stratified coarse sand to silt loam	CL-ML, SC-SM, SM, SP	A-1, A-2, A-3, A-4	0	0-2	95-100	90-100	40-80	4-60	10-20	NP-5
L44A: Nessel-----	85	0-6	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	95-100	85-95	50-80	20-35	4-12
		6-38	Loam, clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	55-75	35-50	15-25
		38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Cordova-----	10	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Angus-----	5	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L45A: Dundas-----	65	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	95-98	85-97	60-80	30-40	6-16
		9-15	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		15-40	Clay loam, silty clay loam, sandy clay loam	CH, CL	A-6, A-7	0	0-2	97-100	90-98	85-97	50-90	35-60	15-30
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Cordova-----	25	0-13	Loam	CL	A-4, A-6	0	0	95-100	95-100	90-100	70-85	25-40	8-20
		13-33	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	40-50	20-30
		33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L45A: Nessel-----	5	0-6	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	95-100	85-95	50-80	20-35	2-12
		6-38	Loam, clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	55-75	35-50	15-25
		38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe-----	5	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		31-45	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-50	10-25
		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	10-20
L46A: Tomall-----	80	0-33	Loam	CL-ML, SC, SM	A-4	0	0	100	100	85-100	45-90	20-30	2-10
		33-42	Loam, sandy loam	SC, SM	A-4	0	0	100	95-100	85-100	45-90	20-30	2-10
		42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	80-100	50-95	25-65	4-20	0-20	NP
		47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-20	NP
Rasset-----	10	0-15	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	0-5	90-100	75-100	50-70	30-50	0-30	NP-10
		15-28	Sandy loam, loam	SC, SC-SM, SM	A-4, A-6	0	0-5	90-100	75-100	50-80	35-50	0-35	NP-15
		28-36	Loamy sand, loamy coarse sand, gravelly sand	SM, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	75-100	50-100	40-80	2-15	0-20	NP-4
		36-80	Sand, coarse sand, gravelly sand	SP-SM, SP, SW	A-1, A-2, A-3	0-1	0-5	60-100	50-100	25-75	2-8	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L46A:													
Malardi-----	10	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
L47A:													
Eden Prairie----	85	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
Malardi-----	10	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L47C: Eden Prairie----	70	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
		16-26	Fine sand, coarse sand, loamy sand	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
		26-80	Fine sand, coarse sand, sand	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
Malardi-----	10	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP, GP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Rasset-----	10	0-15	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	0-5	90-100	75-100	50-70	30-50	0-30	NP-10
		15-28	Sandy loam, loam	SC, SC-SM, SM	A-4, A-6	0	0-5	90-100	75-100	50-80	35-50	0-35	NP-15
		28-36	Loamy sand, loamy coarse sand, gravelly sand	SM, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	75-100	50-100	40-80	2-15	0-20	NP-4
		36-80	Sand, coarse sand, gravelly sand	SW, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	60-100	50-100	25-75	2-8	0-20	NP-4
Hawick-----	10	0-7	Sandy loam	SM	A-2	0-2	0-5	85-100	80-95	50-65	25-35	0-20	NP-4
		7-11	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		11-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L49A: Klossner, surface drained	65	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-33	Silt loam, silty clay loam, mucky silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		33-40	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		40-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
Klossner, drained-----	20	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-36	Mucky silt loam, mucky silty clay loam, silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		36-48	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		48-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
Mineral soil, drained-----	15	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
		31-45	Sandy loam, clay loam, silty clay loam	SC, CL	A-4, A-6	0	0	90-100	85-100	60-95	45-90	30-40	5-20
		45-80	Sandy loam, clay loam, loam	SM, SC, CL	A-4, A-6	0-1	0-2	85-100	75-95	60-90	40-90	25-40	3-20
L50A: Houghton, surface drained	40	0-80	Muck	PT	A-8	0	0	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L50A: Muskego, surface drained-----	40	0-9	Muck	PT	A-8	0	0	100	100	100	100	---	---
		9-36	Muck	PT	A-8	0	0	100	100	100	100	---	---
		36-60	Coprogenous earth	OL	A-5	0	0	95-100	95-100	85-100	75-96	40-50	2-8
Klossner, drained-----	10	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-36	Mucky silt loam, mucky silty clay loam, silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		36-48	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		48-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
Mineral soil, drained-----	10	0-13	Loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	30-35	10-15
		13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
		31-45	Sandy loam, clay loam, silty clay loam	SC, CL	A-4, A-6	0	0	90-100	85-100	60-95	45-90	30-40	5-20
		45-80	Sandy loam, clay loam, loam	SM, SC, CL	A-4, A-6	0-1	0-2	85-100	75-95	60-90	40-90	25-40	3-20
L52C: Urban land-----	75	---	---	---	---	---	---	---	---	---	---	---	---
Lester-----	20	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L52C:													
Kingsley-----	5	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC-SM, SM, SC	A-4, A-2	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
L52E:													
Urban land-----	75	---	---	---	---	---	---	---	---	---	---	---	---
Lester-----	20	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Kingsley-----	5	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
L53B:													
Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L53B: Moon-----	20	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Lester-----	10	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L54A: Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---
Dundas-----	20	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	95-98	85-97	60-80	30-40	6-16
		9-15	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		15-40	Clay loam, silty clay loam, sandy clay loam	CH, CL	A-6, A-7	0	0-2	97-100	90-98	85-97	50-90	35-60	15-30
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Nessel-----	10	0-6	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	95-100	85-95	50-80	20-35	4-12
		6-38	Loam, clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	55-75	35-50	15-25
		38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L55B: Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L55B:													
Malardi-----	20	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy	CL, CL-ML,	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
			loam, coarse	SC, SC-SM									
			sandy loam										
		15-29	Coarse sand,	SC-SM, SM,	A-2, A-3, A-1	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
			loamy coarse	SP-SM									
			sand, gravelly										
			coarse sand										
		29-80	Sand, coarse	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
			sand, gravelly										
			sand										
Rasset-----	5	0-15	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	0-5	90-100	75-100	50-70	30-50	0-30	NP-10
		15-28	Sandy loam,	SC, SC-SM, SM	A-4, A-6	0	0-5	90-100	75-100	50-80	35-50	0-35	NP-15
			loam										
		28-36	Loamy sand,	SM, SP-SM, SP	A-1, A-2, A-3	0-1	0-5	75-100	50-100	40-80	2-15	0-20	NP-4
			loamy coarse										
			sand, gravelly										
			sand										
		36-80	Sand, coarse	SP-SM, SP, SW	A-1, A-2, A-3	0-1	0-5	60-100	50-100	25-75	2-8	0-20	NP-4
			sand, gravelly										
			sand										
Eden Prairie----	5	0-10	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	0-25	NP-5
		10-16	Sandy loam,	SM, SC-SM, SC	A-2, A-4	0	0	95-100	85-100	55-95	25-45	15-30	3-14
			fine sandy										
			loam										
		16-26	Fine sand,	SP-SM, SP	A-2, A-3	0	0	95-100	90-100	50-80	4-25	0-15	NP-3
			coarse sand,										
			loamy sand										
		26-80	Fine sand,	SP-SM, SP	A-2, A-3	0	0	95-100	75-100	50-80	3-10	0-15	NP-3
			coarse sand,										
			sand										
L55C:													
Urban land-----	70	---	---	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L55C:													
Malardi-----	20	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Hawick-----	5	0-7	Sandy loam	SM	A-2	0-2	0-5	85-100	80-95	50-65	25-35	0-20	NP-4
		7-11	Gravelly loamy coarse sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-25	0-15	NP
		11-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	50-95	50-95	30-65	2-10	0-15	NP
Crowfork-----	5	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SP-SM, SP, SM	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-15	NP
L56A:													
Muskego, frequently flooded-----	45	0-9	Muck	PT	A-8	0	0	---	---	---	---	---	---
		9-36	Muck	PT	A-8	0	0	---	---	---	---	---	---
		36-60	Coprogenous earth	OL	A-5	0	0	95-100	95-100	85-100	75-96	40-50	2-8

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L56A: Klossner, frequently flooded-----	45	0-26	Muck	PT	A-8	0	0	---	---	---	---	---	---
		26-33	Silt loam, silty clay loam, mucky silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
		33-40	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
		40-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
Suckercreek, frequently flooded-----	10	0-22	Loam	CL-ML, CL	A-4	0	0	100	100	85-95	50-85	15-30	5-10
		22-80	Loam, sandy loam, loamy fine sand	SC, SM	A-2, A-4	0	0	95-100	85-100	65-90	20-70	0-30	NP-10
L58B: Koronis-----	60	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley-----	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L58B: Forestcity-----	10	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	25-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
Gotham-----	5	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
L58C2: Koronis, eroded	55	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley, eroded	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L58C2: Forestcity-----	15	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	25-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
Gotham-----	5	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
L58D2: Koronis, eroded	55	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley, eroded	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L58D2: Forestcity-----	15	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	25-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
Gotham-----	5	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-2, A-3, A-1	0	0	95-100	75-100	40-80	1-35	0-14	NP
L58E: Koronis-----	55	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley-----	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L58E: Forestcity-----	15	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	25-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
Gotham-----	5	0-9	Loamy sand	SM	A-1, A-2, A-4	0	0	100	95-100	45-95	15-50	0-14	NP
		9-18	Loamy fine sand, loamy sand	SP-SM, SM	A-1, A-2, A-4	0	0	95-100	75-100	40-95	12-50	0-14	NP
		18-40	Sand, loamy fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-4	0	0	95-100	75-100	40-95	4-50	0-14	NP
		40-80	Fine sand, loamy sand, sand	SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-80	1-35	0-14	NP
L59A: Forestcity-----	70	0-22	Fine sandy loam	SM, SC-SM	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-43	Loam, sandy clay loam, clay loam	CL	A-6	0-4	2-5	95-98	90-95	75-90	50-75	25-40	10-15
		43-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	4-8
Lundlake, depressional---	25	0-20	Loam	CL	A-6	0-1	1-3	95-99	90-95	65-90	50-80	30-36	11-15
		20-46	Loam, clay loam, silty clay loam	SC, CL	A-6	0-1	1-3	95-99	90-95	65-90	45-80	30-39	11-18
		46-54	Loam, sandy clay loam, sandy loam	SC, CL	A-4, A-6	0-1	3-5	90-95	85-95	60-85	45-60	28-36	9-15
		54-60	Sandy loam, fine sandy loam, loam	SC, SC-SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	21-26	4-8



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L59A: Marcellon-----	5	0-13	Loam	CL	A-4, A-6	0	0-5	85-100	75-100	55-95	45-80	20-30	6-11
		13-32	Loam, clay loam, sandy clay loam	SC, CL	A-2, A-6	0	0-9	85-100	75-95	60-95	25-80	30-35	11-14
		32-60	Loam, sandy loam, gravelly sandy loam	SC-SM, SC	A-2, A-4, A-1-b	0	0-9	55-100	50-95	30-90	15-75	20-30	4-11
L60B: Angus-----	65	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-95	50-85	30-40	11-15
		8-35	Clay loam, loam	CL	A-6	0-1	0-5	95-100	90-100	80-95	55-75	35-40	15-20
		35-40	Loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	75-90	50-75	32-39	13-18
		40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Moon-----	30	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Hamel-----	5	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L61C2: Lester, eroded--	60	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L61C2: Metea, eroded---	25	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Terril-----	12	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	3	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L61D2: Lester, eroded--	55	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Metea, eroded---	25	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L61D2: Terril-----	12	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	5	0-23	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		23-38	Loam, clay loam	CL, CL-ML	A-6, A-7	0	0-3	95-100	90-100	70-90	60-80	25-45	5-20
		38-50	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	3	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L61E: Lester-----	55	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Metee-----	25	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
Terril-----	10	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	5	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		22-41	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L61E:													
Ridgeton-----	5	0-32	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
L62B:													
Koronis-----	55	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley-----	20	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Malardi-----	20	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	GP, SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L62B: Forestcity-----	5	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	25-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
L62C2: Koronis, eroded	40	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley, eroded	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Malardi, eroded	25	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L62C2: Forestcity-----	10	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	25-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-6	0-4	3-6	95-98	85-95	60-90	35-75	25-40	10-15
		60-80	Fine sandy loam, sandy loam	SM, SC	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
L62D2: Koronis, eroded	40	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley, eroded	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Malardi, eroded	25	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L62D2: Forestcity-----	10	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	30-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-4, A-6	0-4	3-6	95-98	85-95	60-90	35-70	20-40	5-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
L62E: Koronis-----	40	0-10	Sandy loam	SM	A-4, A-6	0-1	0-5	85-100	80-95	75-90	45-70	25-35	3-14
		10-30	Sandy clay loam, loam, fine sandy loam	SC, CL	A-6	0-1	0-5	85-100	80-95	70-90	35-70	30-40	10-20
		30-60	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2, A-4	0-2	0-5	85-100	80-95	50-85	25-50	20-30	5-10
Kingsley-----	25	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0-5	90-100	75-100	50-85	30-45	15-20	NP-5
		7-14	Sandy loam, fine sandy loam, loamy sand	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-100	40-75	20-45	10-20	NP-5
		14-34	Sandy loam, coarse sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-45	15-25	3-9
		34-60	Sandy loam, coarse sandy loam	SM, SC-SM	A-2, A-4	0	0-5	90-100	75-95	50-75	25-40	15-20	NP-5
Malardi-----	25	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L62E: Forestcity-----	10	0-22	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-36	Loam, sandy clay loam	SC	A-6	0-4	2-5	95-98	90-95	75-90	45-75	30-40	10-15
		36-60	Loam, sandy clay loam, clay loam	SC, CL	A-4, A-6	0-4	3-6	95-98	85-95	60-90	35-70	20-40	5-15
		60-80	Fine sandy loam, sandy loam	SC, SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	3-8
L64A: Tadkee-----	50	0-6	Loamy fine sand	SM, SP-SM	A-2	0	0	100	95-100	50-80	4-35	0-14	NP-4
		6-34	Sand, fine sand, loamy sand	SW, SP, SP-SM	A-1, A-2, A-3	0	0	100	75-100	45-80	4-35	0-14	NP
		34-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Tadkee, depressional---	36	0-6	Mucky loamy fine sand	SP-SM, SM	A-2	0	0	100	95-100	50-80	4-35	0-14	NP-4
		6-27	Sand, fine sand, loamy sand	SW, SP, SP-SM	A-1, A-2, A-3	0	0	100	75-100	45-80	4-35	0-14	NP
		27-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Better drained soil-----	8	0-6	Loamy sand	SM	A-2	0	0-1	98-100	95-100	70-90	15-35	5-15	NP-2
		6-25	Sand, fine sand, loamy sand	SP-SM, SP	A-2	0	0-1	98-100	95-100	65-90	4-25	5-15	NP-2
		25-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Granby-----	4	0-12	Loamy fine sand	SM	A-2	0	0	100	100	50-80	15-35	0-14	NP
		12-24	Sand, loamy fine sand, loamy sand	SM, SP-SM	A-3, A-1, A-2	0	0	100	95-100	45-80	5-35	0-14	NP
		24-60	Coarse sand, fine sand, loamy fine sand	SP-SM, SM	A-1, A-2, A-3	0	0	100	95-100	45-80	5-35	0-14	NP
Less sandy soil	2	0-4	Loamy fine sand	SM, SP-SM	A-2	0	0	100	95-100	50-80	4-35	0-14	NP-4
		4-20	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		20-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20



Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
		In				Pct	Pct					Pct	
L70C2: Lester, eroded--	60	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Malardi, eroded	25	0-10	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		10-15	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		15-29	Coarse sand, loamy coarse sand, gravelly coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		29-80	Sand, coarse sand, gravelly sand	SP-SM, SP	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Terril-----	12	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	3	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L70D2: Lester, eroded--	55	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10	4	10	40	200		
						inches	inches						
		In				Pct	Pct					Pct	
L70D2:													
Malardi, eroded	25	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Terril-----	12	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	5	0-23	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		23-38	Loam, clay loam	CL, CL-ML	A-6, A-7	0	0-3	95-100	90-100	70-90	60-80	25-45	5-20
		38-50	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	3	0-24	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		24-46	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L70E:													
Lester-----	55	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L70E:													
Malardi-----	25	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	80-100	50-75	25-50	0-25	NP-5
		9-14	Loam, sandy loam, coarse sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	90-100	85-100	50-90	35-75	15-30	4-14
		14-21	Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	70-85	20-65	5-25	0-20	NP-7
		21-80	Sand, coarse sand, gravelly sand	SP, GP, SP-SM	A-1, A-1-b	0	0-10	55-90	55-85	20-60	2-10	0-20	NP-4
Terril-----	10	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	5	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		22-41	Clay loam, loam, silty clay loam	CH, CL	A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	5	0-32	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
L71C:													
Metea-----	80	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L71C:													
Lester-----	15	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Moon-----	5	0-8	Loamy fine sand	SM	A-2	0	0	100	90-100	55-70	20-35	0-20	NP-4
		8-24	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2	0	0	100	90-100	65-90	10-20	0-20	NP-4
		24-46	Sandy clay loam, fine sandy loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
		46-60	Sandy clay loam, loam, clay loam	CL, ML, SC	A-6, A-7	0-1	0-3	95-100	85-95	80-95	45-70	28-43	5-21
L72A:													
Lundlake, depressional---	90	0-20	Loam	CL	A-6	0-1	1-3	95-99	90-95	65-90	50-80	30-36	11-15
20-46		Loam, clay loam, silty clay loam	SC, CL	A-6	0-1	1-3	95-99	90-95	65-90	45-80	30-39	11-18	
46-54		Loam, sandy clay loam, sandy loam	SC, CL	A-4, A-6	0-1	3-5	90-95	85-95	60-85	45-60	28-36	9-15	
54-60		Sandy loam, fine sandy loam, loam	SC, SC-SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	21-26	4-8	
Forestcity-----	10	0-22	Fine sandy loam	SM, SC-SM	A-2, A-4	0-1	0-2	98-100	90-98	55-75	25-50	20-30	3-9
		22-43	Loam, sandy clay loam, clay loam	CL	A-6	0-4	2-5	95-98	90-95	75-90	50-75	30-40	10-15
		43-60	Loam, sandy clay loam, clay loam	SC, CL	A-4, A-6	0-4	3-6	95-98	85-95	60-90	35-70	20-40	5-15
		60-80	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0-4	3-6	90-95	85-95	60-75	35-55	20-30	4-8

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10	3-10						
						inches	inches	4	10	40	200		
		In				Pct	Pct					Pct	
L110E: Lester-----	50	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		34-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	30	0-32	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
Cokato-----	10	0-16	Loam	CL	A-6	0	0-2	95-100	90-98	80-95	60-70	32-36	13-15
		16-30	Clay loam, loam, sandy clay loam	CL	A-6, A-7	0	0-5	95-100	90-98	80-95	65-80	34-43	14-21
		30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Belview-----	6	0-9	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	28-36	9-15
		9-50	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	2	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		22-41	Clay loam, loam, silty clay loam	CH, CL	A-6	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	2	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L110F: Lester-----	55	0-6	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		6-25	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		25-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Ridgeton-----	30	0-32	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
Cokato-----	8	0-16	Loam	CL	A-6	0	0-2	95-100	90-98	80-95	60-70	32-36	13-15
		16-30	Clay loam, loam, sandy clay loam	CL	A-6, A-7	0	0-5	95-100	90-98	80-95	65-80	34-43	14-21
		30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 17.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
				Unified	AASHTO	>10 inches	3-10 inches	sieve number--					
								4	10	40	200		
		In				Pct	Pct					Pct	
L110F:													
Belview-----	4	0-9	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	28-36	9-15
		9-50	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril-----	2	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		37-57	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel-----	1	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
		22-41	Clay loam, loam, silty clay loam	CH, CL	A-6, A-7	0	0	95-100	95-100	85-95	65-80	40-55	25-35
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L131A:													
Litchfield-----	85	0-20	Loamy fine sand	SM	A-2	0	0	100	100	80-95	15-35	15-20	NP-4
		20-33	Fine sand	SM	A-2	0	0	100	100	80-95	20-35	15-20	NP-4
		33-40	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	80-95	0-25	NP-5
		40-80	Loamy fine sand, loamy sand, sand	SM	A-2, A-3	0	0	100	100	70-95	5-30	15-20	NP-4
Darfur-----	10	0-16	Sandy loam	SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-5
		16-32	Fine sandy loam, sandy clay loam, loamy fine sand	SC-SM, SM	A-4	0	0	100	100	70-100	35-50	20-30	NP-7
		32-80	Stratified sand to loamy fine sand to fine sandy loam	SM	A-2, A-4	0	0	100	100	50-100	15-40	0-20	NP
Crowfork-----	5	0-11	Loamy sand	SM	A-1, A-2	0	0	95-100	85-100	40-100	15-30	0-20	NP-4
		11-20	Fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2, A-3	0	0	95-100	85-100	40-100	5-20	0-20	NP-4
		20-76	Fine sand, loamy sand, sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	95-100	75-100	40-75	0-15	0-20	NP-4
		76-80	Sand, coarse sand	SP	A-1, A-2	0	0	95-100	75-100	40-75	0-15	0-20	NP







Table 18.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D1B:													
Anoka, terrace-----	55	0-10	2-10	1.40-1.60	2-20	0.13-0.16	0.0-2.9	0.5-3.0	.17	.17	5	2	134
		10-60	1-10	1.45-1.75	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.15			
Zimmerman, terrace----	40	0-9	2-6	1.45-1.65	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.17	.17	5	1	220
		9-60	1-10	1.50-1.70	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.15	.15			
Kost-----	5	0-14	3-10	1.20-1.40	6-20	0.09-0.12	0.0-2.9	2.0-5.0	.17	.17	5	2	134
		14-33	0-5	1.40-1.60	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.15			
		33-60	0-5	1.40-1.60	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
D1C:													
Anoka, terrace-----	45	0-10	2-10	1.40-1.60	2-20	0.13-0.16	0.0-2.9	0.5-3.0	.17	.17	5	2	134
		10-60	1-10	1.45-1.75	2-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.15			
Zimmerman, terrace----	45	0-9	2-6	1.45-1.65	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.17	.17	5	1	220
		9-60	1-10	1.50-1.70	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.15	.15			
Kost-----	10	0-14	3-10	1.20-1.40	6-20	0.09-0.12	0.0-2.9	2.0-5.0	.17	.17	5	2	134
		14-33	0-5	1.40-1.60	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.15			
		33-60	0-5	1.40-1.60	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
D2A:													
Elkriver, rarely flooded-----	85	0-10	5-18	1.45-1.55	0.6-6	0.16-0.20	0.0-2.9	3.0-10	.17	.17	4	3	86
		10-35	5-18	1.45-1.55	0.6-6	0.15-0.20	0.0-2.9	3.0-10	.17	.17			
		35-39	5-18	1.45-1.55	0.6-6	0.15-0.19	0.0-2.9	0.5-2.0	.15	.15			
		39-80	1-10	1.60-1.70	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.10	.15			
Mosford, rarely flooded-----	10	0-11	7-18	1.50-1.70	2-6	0.13-0.18	0.0-2.9	2.0-10	.17	.17	3	3	86
		11-16	7-18	1.45-1.60	2-6	0.09-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-57	2-4	1.45-1.60	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
		57-80	2-4	1.45-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			
Elkriver, occasionally flooded-----	5	0-10	5-18	1.45-1.55	0.6-6	0.16-0.20	0.0-2.9	3.0-10	.17	.17	4	3	86
		10-26	5-18	1.45-1.55	0.6-6	0.15-0.20	0.0-2.9	3.0-10	.17	.17			
		26-32	5-18	1.45-1.55	0.6-6	0.15-0.19	0.0-2.9	0.5-2.0	.15	.15			
		32-80	1-10	1.60-1.70	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.10	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D3A: Elkriver, occasionally flooded-----	80	0-10	5-18	1.45-1.55	0.6-6	0.16-0.20	0.0-2.9	3.0-10	.17	.17	4	3	86
		10-26	5-18	1.45-1.55	0.6-6	0.15-0.20	0.0-2.9	3.0-10	.17	.17			
		26-32	5-18	1.45-1.55	0.6-6	0.15-0.19	0.0-2.9	0.5-2.0	.15	.15			
		32-80	1-10	1.60-1.70	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.10	.15			
Fordum, frequently flooded-----	15	0-7	5-12	1.35-1.50	0.6-6	0.11-0.18	0.0-2.9	4.0-14	.17	.17	4	3	86
		7-28	1-8	1.40-1.50	0.6-6	0.10-0.22	0.0-2.9	1.0-10	.20	.20			
		28-80	1-5	1.55-1.70	6-20	0.04-0.10	0.0-2.9	0.5-2.0	.15	.15			
Winterfield, occasionally flooded	5	0-8	0-10	1.40-1.50	2-20	0.10-0.12	0.0-2.9	2.0-7.0	.05	.05	5	2	134
		8-20	0-5	1.45-1.60	6-20	0.06-0.11	0.0-2.9	0.0-1.0	.17	.17			
		20-80	0-5	1.55-1.65	6-20	0.04-0.10	0.0-2.9	0.0-0.5	.10	.17			
D4A: Dorset-----	90	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-27	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		27-60	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Verndale, acid substratum-----	8	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
Almora-----	2	0-10	12-20	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	4	5	56
		10-14	12-20	1.30-1.55	0.6-2	0.12-0.19	0.0-2.9	1.0-2.0	.28	.28			
		14-36	16-22	1.30-1.55	0.6-2	0.14-0.19	2.0-5.9	0.5-1.0	.32	.32			
		36-41	3-12	1.55-1.65	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.10	.15			
		41-80	1-4	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.10	.15			
D4B: Dorset-----	85	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-27	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		27-60	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D4B: Verndale, acid substratum-----	10	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
Almora-----	5	0-10	12-20	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	4	5	56
		10-14	12-20	1.30-1.55	0.6-2	0.12-0.19	0.0-2.9	1.0-2.0	.28	.28			
		14-36	16-22	1.30-1.55	0.6-2	0.14-0.19	2.0-5.9	0.5-1.0	.32	.32			
		36-41	3-12	1.55-1.65	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.10	.15			
		41-80	1-4	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.10	.15			
D4C: Dorset-----	75	0-11	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-5.0	.20	.20	3	3	86
		11-19	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		19-32	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		32-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Verndale, acid substratum-----	15	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
Almora-----	10	0-10	12-20	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	4	5	56
		10-14	12-20	1.30-1.55	0.6-2	0.12-0.19	0.0-2.9	1.0-2.0	.28	.28			
		14-36	16-22	1.30-1.55	0.6-2	0.14-0.19	2.0-5.9	0.5-1.0	.32	.32			
		36-41	3-12	1.55-1.65	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.10	.15			
		41-80	1-4	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.10	.15			
D5B: Dorset-----	65	0-11	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	3	3	86
		11-19	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		19-32	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		32-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Two Inlets-----	25	0-9	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.15	.15	5	2	134
		9-19	5-15	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.10	.15			
		19-80	0-3	1.60-1.80	20-40	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Verndale, acid substratum-----	5	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D5B:													
Southhaven-----	5	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D5C:													
Dorset-----	55	0-11	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-5.0	.20	.20	3	3	86
		11-19	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		19-32	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		32-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Two Inlets-----	30	0-9	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.15	.15	5	2	134
		9-19	5-15	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.10	.15			
		19-80	0-3	1.60-1.80	20-40	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Southhaven-----	10	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Verndale, acid substratum-----	5	0-10	7-12	1.30-1.75	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
D5D:													
Dorset-----	50	0-9	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		14-25	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		25-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Two Inlets-----	35	0-9	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.15	.15	5	2	134
		9-19	5-15	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.10	.15			
		19-80	0-3	1.60-1.80	20-40	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Southhaven-----	10	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
D5D: Verndale, acid substratum-----	5	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
D6A: Verndale, acid substratum-----	90	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.55-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
Dorset-----	7	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-27	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		27-60	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Hubbard-----	3	0-20	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		20-32	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		32-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
D6B: Verndale, acid substratum-----	85	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
Dorset-----	10	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-27	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		27-60	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Hubbard-----	5	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
D6C: Verndale, acid substratum-----	80	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D6C:													
Dorset-----	15	0-11	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-5.0	.20	.20	3	3	86
		11-19	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		19-32	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		32-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Hubbard-----	5	0-12	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		12-33	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		33-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
D7A:													
Hubbard-----	95	0-20	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		20-32	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		32-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Mosford-----	5	0-13	7-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-16	7-18	1.50-1.60	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-35	2-6	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
		35-80	2-4	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			
D7B:													
Hubbard-----	90	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Mosford-----	10	0-13	7-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-16	7-18	1.50-1.60	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-35	2-6	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
		35-80	2-4	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			
D7C:													
Hubbard-----	80	0-12	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		12-33	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		33-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Sandberg-----	10	0-14	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.15	.15	5	2	134
		14-32	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.05	.10			
		32-80	0-5	1.50-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.05	.10			
Mosford-----	10	0-13	7-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-16	7-18	1.50-1.60	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-35	2-6	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
		35-80	2-4	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D8B: Sandberg-----	95	0-14	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.15	.15	5	2	134
		14-32	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.05	.10			
		32-80	0-5	1.50-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.05	.10			
Arvilla, MAP >25-----	5	0-14	6-18	1.40-1.60	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		14-17	6-18	1.45-1.60	2-6	0.11-0.14	0.0-2.9	1.0-2.0	.20	.20			
		17-80	2-10	1.60-1.80	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.20			
D8C: Sandberg-----	80	0-14	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.15	.15	5	2	134
		14-32	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.05	.10			
		32-80	0-5	1.50-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.05	.10			
Corliss-----	15	0-7	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-4.0	.15	.15	5	2	134
		7-28	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.15			
		28-80	0-5	1.50-1.65	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Southhaven-----	5	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D8D: Sandberg-----	80	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.15	.15	5	2	134
		11-27	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.05	.10			
		27-80	0-5	1.50-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.05	.10			
Corliss-----	10	0-7	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-4.0	.15	.15	5	2	134
		7-28	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.15			
		28-80	0-5	1.50-1.65	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Southhaven-----	10	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D8E: Sandberg-----	80	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.15	.15	5	2	134
		11-27	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.05	.10			
		27-80	0-5	1.50-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.05	.10			
Corliss-----	10	0-7	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-4.0	.15	.15	5	2	134
		7-28	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.15			
		28-80	0-5	1.50-1.65	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D8E:													
Southhaven-----	10	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D10A:													
Forada-----	95	0-10	13-20	1.30-1.50	0.6-6	0.15-0.17	0.0-2.9	3.0-6.0	.20	.20	4	3	86
		10-33	13-18	1.35-1.50	2-6	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
		33-60	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
Depressional soil-----	5	0-19	13-20	1.30-1.50	0.6-6	0.15-0.17	0.0-2.9	3.0-6.0	.20	.20	4	3	86
		19-38	13-18	1.35-1.50	2-6	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
		38-60	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
D11A:													
Lindaas-----	80	0-16	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	5	6	48
		16-32	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		32-80	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			
Lindaas, sandy substratum-----	10	0-14	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	4	6	48
		14-20	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		20-62	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			
		62-80	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Depressional soil-----	10	0-23	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	5	6	48
		23-30	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		30-80	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			
D12B:													
Bygland, MAP >25-----	70	0-9	18-26	1.20-1.40	0.2-2	0.22-0.24	3.0-5.9	3.0-7.0	.28	.28	5	6	48
		9-23	35-60	1.20-1.40	0.06-0.6	0.10-0.19	6.0-8.9	0.5-3.0	.32	.32			
		23-27	18-45	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.43	.43			
		27-80	18-40	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
Bygland, sandy substratum-----	15	0-14	18-26	1.20-1.40	0.2-2	0.22-0.24	3.0-5.9	3.0-7.0	.28	.28	4	6	48
		14-26	35-60	1.20-1.40	0.06-0.6	0.10-0.19	6.0-8.9	0.5-3.0	.32	.32			
		26-38	18-45	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.43	.43			
		38-63	18-40	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
		63-80	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Lindaas-----	10	0-16	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	5	6	48
		16-32	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		32-80	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			



Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D12B:													
Depressional soil-----	5	0-23	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	5	6	48
		23-30	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		30-80	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			
D12C2:													
Bygland, MAP >25-----	70	0-7	18-26	1.20-1.40	0.2-2	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28	5	6	48
		7-20	35-60	1.20-1.40	0.06-0.6	0.10-0.19	6.0-8.9	0.5-3.0	.32	.32			
		20-26	18-45	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.43	.43			
		26-80	18-40	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
Bygland, sandy substratum-----	15	0-14	18-26	1.20-1.40	0.2-2	0.22-0.24	3.0-5.9	3.0-7.0	.28	.28	4	6	48
		14-26	35-60	1.20-1.40	0.06-0.6	0.10-0.19	6.0-8.9	0.5-3.0	.32	.32			
		26-38	18-45	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.43	.43			
		38-63	18-40	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
		63-80	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Lindaas-----	10	0-16	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	5	6	48
		16-32	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		32-80	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			
Depressional soil-----	5	0-23	20-27	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	3.0-7.0	.32	.32	5	6	48
		23-30	35-60	1.20-1.40	0.06-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.32	.32			
		30-80	25-40	1.20-1.50	0.2-0.6	0.11-0.15	3.0-5.9	0.5-1.0	.32	.32			
D13A:													
Langola, terrace-----	85	0-15	2-10	1.40-1.55	6-20	0.10-0.12	0.0-2.9	1.0-4.0	.17	.17	4	2	134
		15-31	2-8	1.50-1.70	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
		31-39	10-18	1.55-1.80	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.28			
		39-43	5-16	1.75-1.90	0.06-0.2	0.03-0.10	0.0-2.9	0.0-0.5	.28	.28			
		43-60	5-16	1.80-2.00	0.06-0.2	0.03-0.10	0.0-2.9	0.0-0.5	.28	.28			
Duelm-----	10	0-16	2-10	1.40-1.60	6-20	0.08-0.12	0.0-2.9	2.0-6.0	.17	.17	5	2	134
		16-30	1-8	1.55-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		30-80	0-6	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Hubbard-----	5	0-20	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		20-32	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		32-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D13B:													
Langola, terrace-----	85	0-15	2-10	1.40-1.55	6-20	0.10-0.12	0.0-2.9	1.0-4.0	.17	.17	4	2	134
		15-31	2-8	1.50-1.70	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
		31-39	10-18	1.55-1.80	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.28			
		39-43	5-16	1.75-1.90	0.06-0.2	0.03-0.10	0.0-2.9	0.0-0.5	.28	.28			
		43-60	5-16	1.80-2.00	0.06-0.2	0.03-0.10	0.0-2.9	0.0-0.5	.28	.28			
Hubbard-----	10	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Duelm-----	5	0-16	2-10	1.40-1.60	6-20	0.08-0.12	0.0-2.9	2.0-6.0	.17	.17	5	2	134
		16-30	1-8	1.55-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		30-80	0-6	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D15A:													
Seelyeville, drained--	65	0-10	---	0.10-0.25	0.2-6	0.35-0.45	---	67-90	---	---	3	2	134
		10-60	---	0.10-0.25	0.2-6	0.35-0.45	---	67-90	---	---			
Markey, drained-----	25	0-28	---	0.15-0.45	0.2-6	0.35-0.45	---	67-90	---	---	2	2	134
		28-32	0-10	1.40-1.65	6-20	0.03-0.08	0.0-2.9	1.0-4.0	.15	.15			
		32-80	0-10	1.40-1.65	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.15	.15			
Mineral soil, drained	10	0-18	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-14	.15	.15	3	3	86
		18-29	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		29-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
D16A:													
Seelyeville, ponded---	45	0-15	---	0.10-0.25	0.2-6	0.35-0.45	---	67-90	---	---	3	8	0
		15-80	---	0.10-0.25	0.2-6	0.35-0.45	---	67-90	---	---			
Markey, ponded-----	45	0-27	---	0.15-0.45	0.2-6	0.35-0.45	---	67-90	---	---	2	8	0
		27-32	0-10	1.40-1.65	6-20	0.03-0.08	0.0-2.9	1.0-4.0	.15	.15			
		32-80	0-10	1.40-1.65	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.15	.15			
Mineral soil, ponded--	10	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-14	.15	.15	3	8	0
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
D17A:													
Duelm-----	90	0-16	2-10	1.40-1.60	6-20	0.08-0.12	0.0-2.9	2.0-6.0	.17	.17	5	2	134
		16-30	1-8	1.55-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		30-80	0-6	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility	Wind erodi- bility
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct				group	index
D17A:													
Isan-----	8	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-10	.20	.20	3	3	86
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
Hubbard-----	2	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
D18B:													
Braham, terrace-----	85	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-42	18-30	1.50-1.70	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		42-60	16-30	1.55-1.75	0.6-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
Duelm-----	15	0-16	2-10	1.40-1.60	6-20	0.08-0.12	0.0-2.9	2.0-6.0	.17	.17	5	2	134
		16-30	1-8	1.55-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		30-80	0-6	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D19A:													
Fordum, frequently flooded-----	65	0-7	5-12	1.35-1.50	0.6-6	0.11-0.18	0.0-2.9	4.0-14	.17	.17	4	8	0
		7-28	1-10	1.40-1.50	0.6-6	0.10-0.22	0.0-2.9	1.0-10	.20	.20			
		28-80	1-5	1.55-1.70	6-20	0.04-0.10	0.0-2.9	0.5-2.0	.15	.15			
Winterfield, frequently flooded---	25	0-8	0-10	1.40-1.50	2-20	0.10-0.12	0.0-2.9	2.0-7.0	.05	.05	5	8	0
		8-20	0-5	1.45-1.60	6-20	0.06-0.11	0.0-2.9	0.0-1.0	.17	.17			
		20-80	0-5	1.55-1.65	6-20	0.04-0.10	0.0-2.9	0.0-0.5	.10	.17			
Fordum, occasionally flooded-----	10	0-9	10-23	1.35-1.45	0.6-2	0.17-0.24	0.0-2.9	3.0-10	.17	.17	4	8	0
		9-38	8-17	1.40-1.50	0.6-2	0.10-0.22	0.0-2.9	0.5-3.0	.20	.20			
		38-80	2-5	1.55-1.70	6-20	0.04-0.16	0.0-2.9	0.5-1.0	.15	.15			
D20A:													
Isan-----	85	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-10	.20	.20	3	3	86
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
Isan, depressiona-----	10	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-10	.20	.20	3	3	86
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D20A:													
Duelm-----	5	0-16	2-10	1.40-1.60	6-20	0.08-0.12	0.0-2.9	2.0-6.0	.17	.17	5	2	134
		16-30	1-8	1.55-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		30-80	0-6	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
D21A:													
Isan, depressional----	85	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-10	.20	.20	3	3	86
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
Isan-----	15	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-10	.20	.20	3	3	86
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
D23A:													
Southhaven-----	90	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Dorset-----	5	0-11	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	3	3	86
		11-19	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		19-32	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		32-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Mosford-----	5	0-13	7-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-16	7-18	1.50-1.60	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-35	2-6	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
		35-80	2-4	1.55-1.67	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			
D24A:													
Sedgeville, occasionally flooded	85	0-15	0-23	1.35-1.45	0.6-2	0.17-0.24	0.0-2.9	4.0-10	.28	.28	4	5	56
		15-45	8-17	1.40-1.50	0.6-2	0.10-0.22	0.0-2.9	0.0-3.0	.32	.43			
		45-80	2-5	1.55-1.70	6-40	0.04-0.16	0.0-2.9	0.0-0.5	.10	.15			
Elkriver, occasionally flooded-----	15	0-10	5-18	1.45-1.55	0.6-6	0.16-0.20	0.0-2.9	3.0-10	.17	.17	4	3	86
		10-26	5-18	1.45-1.55	0.6-6	0.15-0.20	0.0-2.9	3.0-10	.17	.17			
		26-32	5-18	1.45-1.55	0.6-6	0.15-0.19	0.0-2.9	0.5-2.0	.15	.15			
		32-80	1-10	1.60-1.70	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.10	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
D25A:		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Soderville, terrace---	90	0-9	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.15	.15	5	2	134
		9-24	1-10	1.45-1.70	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.15	.15			
		24-31	5-12	1.45-1.75	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		31-60	1-5	1.45-1.75	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
Forada-----	10	0-10	13-20	1.30-1.50	0.6-6	0.15-0.17	0.0-2.9	3.0-6.0	.20	.20	4	3	86
		10-33	13-18	1.35-1.50	2-6	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
		33-60	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
D26A:													
Foldahl, MAP >25-----	90	0-16	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	2.0-4.0	.17	.17	5	2	134
		16-31	1-8	1.55-1.65	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		31-40	10-25	1.65-1.75	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.32	.32			
		40-60	12-25	1.65-1.75	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.32	.32			
Hubbard-----	5	0-20	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		20-32	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		32-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Isan-----	5	0-14	5-14	1.30-1.55	2-6	0.10-0.15	0.0-2.9	3.0-10	.20	.20	3	3	86
		14-34	2-8	1.50-1.65	6-20	0.06-0.10	0.0-2.9	0.5-3.0	.17	.17			
		34-80	1-5	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
D27A:													
Dorset, loamy substratum-----	80	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-60	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		60-80	10-20	1.45-1.65	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.32	.32			
Dorset-----	15	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-27	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		27-60	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Southhaven-----	5	0-48	16-27	1.30-1.40	0.6-2	0.15-0.22	0.0-2.9	4.0-9.0	.24	.24	5	6	48
		48-62	16-30	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.24	.24			
		62-66	4-8	1.45-1.70	6-20	0.01-0.11	0.0-2.9	0.0-0.5	.17	.17			
		66-80	1-5	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D28B:													
Urban land-----	75	---	---	---	---	---	---	---	---	---	-	---	---
Bygland, MAP >25-----	20	0-9	18-26	1.20-1.40	0.2-2	0.22-0.24	3.0-5.9	3.0-7.0	.28	.28	5	6	48
		9-23	35-60	1.20-1.40	0.06-0.6	0.10-0.19	6.0-8.9	0.5-3.0	.32	.32			
		23-27	18-45	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.43	.43			
		27-80	18-40	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
Bygland, sandy substratum-----	5	0-14	18-26	1.20-1.40	0.2-2	0.22-0.24	3.0-5.9	3.0-7.0	.28	.28	4	6	48
		14-26	35-60	1.20-1.40	0.06-0.6	0.10-0.19	6.0-8.9	0.5-3.0	.32	.32			
		26-38	18-45	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.43	.43			
		38-63	18-40	1.30-1.50	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
		63-80	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
D29B:													
Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Hubbard, bedrock substratum-----	20	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	4	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-60	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		60-80	---	---	---	---	---	---	---	---			
Hubbard-----	5	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Mosford-----	5	0-13	7-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-16	7-18	1.50-1.60	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-35	2-6	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
		35-80	2-4	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			
D30A:													
Seelyeville, surface drained-----	45	0-10	---	0.10-0.25	0.2-6	0.35-0.45	---	67-90	---	---	3	2	134
		10-80	---	0.10-0.25	0.2-6	0.35-0.45	---	67-90	---	---			
Markey, surface drained-----	45	0-36	---	0.15-0.45	0.2-6	0.35-0.45	---	67-90	---	---	2	2	134
		36-42	0-10	1.40-1.65	6-20	0.03-0.08	0.0-2.9	1.0-4.0	.15	.15			
		42-80	0-10	1.40-1.65	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D30A: Mineral soil, surface drained-----	10	0-14 14-34 34-80	5-14 2-8 1-5	1.30-1.55 1.50-1.65 1.55-1.70	2-6 6-20 6-20	0.10-0.15 0.06-0.10 0.04-0.06	0.0-2.9 0.0-2.9 0.0-2.9	3.0-14 0.5-3.0 0.0-0.5	.15 .17 .15	.15 .17 .15	3	3	86
D31A: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Duelm-----	20	0-16 16-30 30-80	2-10 1-8 0-6	1.40-1.60 1.55-1.65 1.55-1.65	6-20 6-20 6-20	0.08-0.12 0.06-0.11 0.02-0.07	0.0-2.9 0.0-2.9 0.0-2.9	2.0-6.0 0.0-0.5 0.0-0.5	.17 .15 .15	.17 .15 .15	5	2	134
Hubbard-----	5	0-18 18-23 23-80	4-10 1-5 0-5	1.45-1.60 1.55-1.65 1.55-1.65	6-20 6-20 6-20	0.08-0.12 0.03-0.07 0.03-0.07	0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.0-0.5 0.0-0.5	.15 .15 .15	.15 .15 .15	5	2	134
Isan-----	5	0-14 14-34 34-80	5-14 2-8 1-5	1.30-1.55 1.50-1.65 1.55-1.70	2-6 6-20 6-20	0.10-0.15 0.06-0.10 0.04-0.06	0.0-2.9 0.0-2.9 0.0-2.9	3.0-10 0.5-3.0 0.0-0.5	.20 .17 .15	.20 .17 .15	3	3	86
D33B: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Dorset-----	20	0-12 12-20 20-27 27-60	4-18 10-18 5-10 0-5	1.40-1.55 1.45-1.65 1.55-1.65 1.55-1.65	2-6 2-6 6-20 6-20	0.13-0.15 0.12-0.19 0.06-0.10 0.02-0.04	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	3.0-5.0 0.5-2.0 0.0-0.5 0.0-0.5	.20 .28 .10 .10	.20 .28 .17 .15	4	3	86
Verndale, acid substratum-----	5	0-10 10-19 19-28 28-80	7-12 7-18 2-6 0-4	1.30-1.50 1.45-1.60 1.55-1.80 1.60-1.80	2-6 0.6-2 6-20 6-20	0.13-0.17 0.14-0.18 0.06-0.08 0.02-0.06	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.5-1.0 0.0-0.5 0.0-0.5	.20 .24 .10 .10	.20 .24 .10 .10	3	3	86
Hubbard-----	5	0-20 20-32 32-80	4-10 1-5 0-5	1.45-1.60 1.55-1.65 1.55-1.65	6-20 6-20 6-20	0.08-0.12 0.03-0.07 0.03-0.07	0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.0-0.5 0.0-0.5	.15 .15 .15	.15 .15 .15	5	2	134
D33C: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Dorset-----	20	0-11 11-19 19-32 32-80	4-18 10-18 5-10 0-5	1.40-1.55 1.45-1.65 1.55-1.65 1.55-1.65	2-6 2-6 6-20 6-20	0.13-0.15 0.12-0.19 0.06-0.10 0.02-0.04	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	2.0-5.0 0.5-2.0 0.0-0.5 0.0-0.5	.20 .28 .10 .10	.20 .28 .17 .15	3	3	86

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D33C: Verndale, acid substratum-----	5	0-10	7-12	1.30-1.50	2-6	0.13-0.17	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-19	7-18	1.45-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.24	.24			
		19-28	2-6	1.55-1.80	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
		28-80	0-4	1.60-1.80	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.10	.10			
Hubbard-----	5	0-12	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		12-33	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		33-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
D34B: Urban land-----	75	---	---	---	---	---	---	---	---	---	-	---	---
Hubbard-----	20	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	5	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-80	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
Mosford-----	5	0-13	7-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-16	7-18	1.50-1.60	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.24			
		16-35	2-6	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
		35-80	2-4	1.55-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05	.10			
D35A: Elkriver, occasionally flooded-----	70	0-10	5-18	1.45-1.55	0.6-6	0.16-0.20	0.0-2.9	3.0-10	.17	.17	4	3	86
		10-26	5-18	1.45-1.55	0.6-6	0.15-0.20	0.0-2.9	3.0-10	.17	.17			
		26-32	5-18	1.45-1.55	0.6-6	0.15-0.19	0.0-2.9	0.5-2.0	.15	.15			
		32-80	1-10	1.60-1.70	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.10	.15			
Fordum, occasionally flooded-----	20	0-7	5-12	1.35-1.50	0.6-6	0.11-0.18	0.0-2.9	3.0-10	.17	.17	4	3	86
		7-28	1-10	1.40-1.50	0.6-6	0.10-0.22	0.0-2.9	1.0-10	.20	.20			
		28-80	1-5	1.55-1.70	6-20	0.04-0.10	0.0-2.9	0.5-2.0	.15	.15			
Udipsamments-----	5	---	---	---	---	---	---	---	---	---	-	---	---
Winterfield, occasionally flooded	5	0-8	0-10	1.40-1.50	2-20	0.10-0.12	0.0-2.9	2.0-7.0	.05	.05	5	2	134
		8-20	0-5	1.45-1.60	6-20	0.06-0.11	0.0-2.9	0.0-1.0	.17	.17			
		20-80	0-5	1.55-1.65	6-20	0.04-0.10	0.0-2.9	0.0-0.5	.10	.17			



Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D37F: Dorset, bedrock substratum-----	70	0-12	4-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	3	3	86
		12-20	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.5-2.0	.28	.28			
		20-27	5-10	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.10	.17			
		27-60	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
		60-80	---	---	---	---	---	---	---	---			
Rock outcrop-----	20	---	---	---	---	---	---	---	---	---	-	---	---
Hubbard, bedrock substratum-----	10	0-18	4-10	1.45-1.60	6-20	0.08-0.12	0.0-2.9	2.0-4.0	.15	.15	4	2	134
		18-23	1-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		23-60	0-5	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.15	.15			
		60-80	---	---	---	---	---	---	---	---			
D40A: Kratka, thick solum---	80	0-10	2-10	1.20-1.50	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		10-30	2-6	1.30-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		30-60	10-35	1.50-1.80	0.2-2	0.11-0.19	3.0-5.9	0.0-0.5	.32	.32			
Duelm-----	10	0-16	2-10	1.40-1.60	6-20	0.08-0.12	0.0-2.9	2.0-6.0	.17	.17	5	2	134
		16-30	1-8	1.55-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.15	.15			
		30-80	0-6	1.55-1.65	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Foldahl, MAP >25-----	10	0-16	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	2.0-4.0	.17	.17	5	2	134
		16-31	1-8	1.55-1.65	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		31-40	10-25	1.65-1.75	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.32	.32			
		40-60	12-25	1.65-1.75	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.32	.32			
D41C: Urban land-----	75	---	---	---	---	---	---	---	---	---	-	---	---
Waukon-----	20	0-8	4-16	1.45-1.60	2-6	0.13-0.15	0.0-2.9	2.0-5.0	.24	.24	5	3	86
		8-43	18-35	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
		43-80	18-30	1.45-1.65	0.6-2	0.15-0.19	0.0-2.9	0.0-0.5	.32	.32			
Braham-----	5	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-42	18-30	1.50-1.70	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		42-60	16-30	1.55-1.75	0.6-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
D43A: Gonvick, terrace-----	85	0-12 12-30 30-60	10-27 22-35 18-35	1.30-1.45 1.35-1.50 1.40-1.65	0.6-2 0.2-2 0.6-2	0.20-0.22 0.15-0.19 0.15-0.19	3.0-5.9 3.0-5.9 0.0-2.9	2.0-5.0 0.5-1.0 0.0-0.5	.24 .32 .32	.24 .32 .32	5	6	48
Braham-----	15	0-8 8-24 24-42 42-60	2-8 2-8 18-30 16-30	1.40-1.60 1.45-1.60 1.50-1.70 1.55-1.75	6-20 6-20 0.2-2 0.6-2	0.10-0.12 0.08-0.10 0.15-0.18 0.15-0.18	0.0-2.9 0.0-2.9 3.0-5.9 3.0-5.9	1.0-3.0 0.0-0.5 0.0-0.5 0.0-0.5	.17 .17 .37 .37	.17 .17 .37 .37	5	2	134
GP. Pits, gravel- Udipsamments													
L2B: Malardi-----	65	0-10 10-15 15-29 29-80	5-18 10-18 1-8 0-5	1.40-1.55 1.45-1.65 1.55-1.65 1.55-1.65	2-6 2-6 6-20 6-20	0.13-0.15 0.12-0.19 0.06-0.10 0.02-0.04	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.0-1.0 0.0-0.5 0.0-0.5	.20 .20 .05 .05	.20 .20 .10 .10	3	3	86
Hawick-----	25	0-7 7-11 11-80	5-15 1-10 1-5	1.35-1.55 1.50-1.65 1.55-1.65	2-6 6-20 20-40	0.13-0.15 0.03-0.10 0.02-0.06	0.0-2.9 0.0-2.9 0.0-2.9	1.0-4.0 0.0-1.0 0.0-0.5	.20 .10 .10	.20 .15 .15	3	3	86
Rasset-----	5	0-15 15-28 28-36 36-80	6-15 10-18 2-10 1-5	1.35-1.55 1.40-1.60 1.45-1.65 1.50-1.70	2-6 2-6 6-20 6-40	0.13-0.15 0.12-0.19 0.06-0.11 0.02-0.07	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 1.0-2.0 0.5-1.0 0.0-0.5	.20 .20 .17 .10	.20 .20 .17 .10	4	3	86
Eden Prairie-----	5	0-10 10-16 16-26 26-80	5-18 10-18 0-8 0-5	1.30-1.40 1.35-1.50 1.50-1.60 1.50-1.60	2-6 2-6 6-20 6-20	0.13-0.15 0.12-0.14 0.02-0.10 0.02-0.07	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.0-1.0 0.0-1.0 0.0-0.5	.20 .20 .15 .15	.20 .20 .15 .15	3	3	86
L2C: Malardi-----	60	0-10 10-15 15-29 29-80	5-18 10-18 1-8 0-5	1.40-1.55 1.45-1.65 1.55-1.65 1.55-1.65	2-6 2-6 6-20 6-20	0.13-0.15 0.12-0.19 0.06-0.10 0.02-0.04	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.0-1.0 0.0-0.5 0.0-0.5	.20 .20 .05 .05	.20 .20 .10 .10	3	3	86
Hawick-----	25	0-7 7-11 11-80	5-15 1-10 1-5	1.35-1.55 1.50-1.65 1.55-1.65	2-6 6-20 20-40	0.13-0.15 0.03-0.10 0.02-0.06	0.0-2.9 0.0-2.9 0.0-2.9	1.0-4.0 0.0-1.0 0.0-0.5	.20 .10 .10	.20 .15 .15	3	3	86

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L2C:													
Tomall-----	10	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
Crowfork-----	5	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L2D:													
Malardi-----	55	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Hawick-----	30	0-7	5-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		7-11	1-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-1.0	.10	.15			
		11-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Tomall-----	10	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
Crowfork-----	5	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L2E:													
Malardi-----	55	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	4.0-8.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Hawick-----	30	0-7	5-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		7-11	1-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-1.0	.10	.15			
		11-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Tomall-----	15	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L3A:</b>													
Rasset-----	90	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Malardi-----	8	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Eden Prairie-----	2	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
<b>L3B:</b>													
Rasset-----	80	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Malardi-----	15	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Eden Prairie-----	5	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
<b>L3C:</b>													
Rasset-----	75	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Malardi-----	10	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L3C:													
Tomall-----	10	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
Eden Prairie-----	5	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L4B:													
Crowfork-----	90	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Eden Prairie-----	10	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L4C:													
Crowfork-----	90	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Eden Prairie-----	10	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L4D:													
Crowfork-----	85	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Eden Prairie-----	15	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L6A:</b>													
Biscay-----	85	0-20	18-30	1.20-1.30	0.6-2	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		20-28	18-30	1.25-1.35	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Biscay, depressional--	10	0-23	18-30	1.20-1.30	0.6-2	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		23-28	18-30	1.25-1.35	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Mayer-----	5	0-18	18-30	1.25-1.35	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.24	.24	4	4L	86
		18-33	18-30	1.25-1.35	0.6-2	0.16-0.19	0.0-2.9	0.5-1.0	.28	.28			
		33-80	1-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
<b>L7A:</b>													
Biscay, depressional--	80	0-23	18-30	1.20-1.30	0.6-2	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		23-28	18-30	1.25-1.35	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Biscay-----	15	0-20	18-30	1.20-1.30	0.6-2	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		20-28	18-30	1.25-1.35	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Mayer-----	5	0-18	18-30	1.25-1.35	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.24	.24	4	4L	86
		18-33	18-30	1.25-1.35	0.6-2	0.16-0.19	0.0-2.9	0.5-1.0	.28	.28			
		33-80	1-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
<b>L8A:</b>													
Darfur-----	95	0-16	13-16	1.30-1.50	0.6-6	0.15-0.17	0.0-2.9	4.0-6.0	.20	.20	4	3	86
		16-32	10-23	1.35-1.50	2-6	0.15-0.17	0.0-2.9	0.2-0.8	.20	.20			
		32-80	2-12	1.45-1.60	2-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
Dassel-----	5	0-14	6-18	1.30-1.45	2-6	0.16-0.20	0.0-2.9	3.0-15	.20	.20	4	3	86
		14-31	2-10	1.40-1.60	2-6	0.12-0.17	0.0-2.9	1.0-4.0	.20	.20			
		31-80	2-8	1.45-1.65	6-20	0.08-0.10	0.0-2.9	0.0-1.0	.20	.20			
<b>L9A:</b>													
Minnetonka-----	90	0-13	27-35	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		13-35	35-60	1.20-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		35-60	25-40	1.25-1.55	0.2-2	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
									Kw	Kf	T		
L9A:		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Depressional soil-----	10	0-16	27-35	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		16-42	35-60	1.20-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		42-60	25-40	1.25-1.55	0.2-2	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			
L10B:													
Kasota-----	80	0-10	27-35	1.25-1.40	0.2-0.6	0.18-0.20	3.0-5.9	3.0-6.0	.28	.28	4	7	38
		10-28	35-60	1.30-1.50	0.2-0.6	0.12-0.18	6.0-8.9	0.0-1.0	.32	.32			
		28-32	2-10	1.50-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
		32-60	1-5	1.50-1.70	6-20	0.02-0.06	0.0-2.9	0.0-0.2	.15	.15			
Eden Prairie-----	10	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Wet soil in swales----	10	0-13	27-35	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		13-35	35-60	1.20-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		35-60	25-40	1.25-1.55	0.2-2	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			
		60-80	1-6	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
L11B:													
Grays-----	90	0-7	10-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	3	86
		7-25	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		25-60	5-20	1.50-1.70	0.6-2	0.14-0.22	0.0-2.9	0.0-0.4	.43	.43			
Kasota-----	5	0-10	27-35	1.25-1.40	0.2-0.6	0.18-0.20	3.0-5.9	3.0-6.0	.28	.28	4	7	38
		10-28	35-60	1.30-1.50	0.2-0.6	0.12-0.18	6.0-8.9	0.0-1.0	.32	.32			
		28-32	2-10	1.50-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
		32-60	1-5	1.50-1.70	6-20	0.02-0.06	0.0-2.9	0.0-0.2	.15	.15			
Crowfork-----	5	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L12A:													
Muskego, frequently flooded-----	30	0-9	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---	1	8	0
		9-36	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---			
		36-60	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.28	.28			
Blue Earth, frequently flooded-----	30	0-50	18-32	0.20-0.80	0.6-2	0.18-0.24	3.0-5.9	10-25	.28	.28	5	8	0
		50-60	18-32	0.20-0.80	0.6-2	0.18-0.24	0.0-2.9	10-25	.28	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L12A: Houghton, frequently flooded-----	30	0-80	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---	3	8	0
Oshawa, frequently flooded-----	10	0-12 12-60	18-27 18-35	1.20-1.30 1.30-1.35	0.6-2 0.2-0.6	0.20-0.22 0.17-0.19	0.0-2.9 0.0-2.9	4.0-10 0.5-4.0	.28 .28	.28 .28	5	8	0
L13A: Klossner, drained-----	80	0-26 26-36 36-48 48-80	--- 22-35 22-35 15-32	0.25-0.55 1.10-1.25 1.30-1.40 1.35-1.50	0.2-6 0.6-2 0.2-2 0.6-2	0.35-0.48 0.22-0.26 0.18-0.22 0.15-0.19	--- 3.0-5.9 3.0-5.9 3.0-5.9	25-60 10-20 5.0-10 0.0-5.0	--- .37 .28 .28	--- .37 .28 .28	2	2	134
Mineral soil, drained	15	0-13 13-31 31-45 45-80	25-27 18-35 15-35 15-30	1.35-1.45 1.35-1.45 1.35-1.50 1.35-1.55	0.6-2 0.2-2 0.2-2 0.6-2	0.18-0.22 0.18-0.22 0.15-0.19 0.15-0.19	3.0-5.9 3.0-5.9 3.0-5.9 1.0-4.2	5.0-10 2.0-5.0 0.5-2.0 0.1-0.5	.28 .28 .28 .32	.28 .28 .28 .37	5	6	48
Houghton, drained-----	5	0-10 10-80	--- ---	0.15-0.25 0.15-0.25	0.2-6 0.2-6	0.35-0.45 0.35-0.45	--- ---	70-99 70-99	--- ---	--- ---	3	2	134
L14A: Houghton, drained-----	80	0-10 10-80	--- ---	0.15-0.25 0.15-0.25	0.2-6 0.2-6	0.35-0.45 0.35-0.45	--- ---	70-99 70-99	--- ---	--- ---	3	2	134
Klossner, drained-----	10	0-26 26-36 36-48 48-80	--- 22-35 22-35 15-32	0.25-0.55 1.10-1.25 1.30-1.40 1.35-1.50	0.2-6 0.6-2 0.2-2 0.6-2	0.35-0.48 0.22-0.26 0.18-0.22 0.15-0.19	--- 3.0-5.9 3.0-5.9 3.0-5.9	25-60 10-20 5.0-10 0.0-5.0	--- .37 .28 .28	--- .37 .28 .28	2	2	134
Mineral soil, drained	10	0-13 13-31 31-45 45-80	25-27 18-35 15-35 15-30	1.35-1.45 1.35-1.45 1.35-1.50 1.35-1.55	0.6-2 0.2-2 0.2-2 0.6-2	0.18-0.22 0.18-0.22 0.15-0.19 0.15-0.19	3.0-5.9 3.0-5.9 3.0-5.9 1.0-4.2	5.0-10 2.0-5.0 0.5-2.0 0.1-0.5	.28 .28 .28 .32	.28 .28 .28 .37	5	6	48
L15A: Klossner, ponded-----	30	0-26 26-33 33-40 40-80	--- 22-35 22-35 15-32	0.25-0.55 1.10-1.25 1.30-1.40 1.35-1.50	0.2-6 0.6-2 0.2-2 0.6-2	0.35-0.48 0.22-0.26 0.18-0.22 0.15-0.19	--- 3.0-5.9 3.0-5.9 3.0-5.9	25-60 10-20 5.0-10 0.0-5.0	--- .37 .28 .28	--- .37 .28 .28	2	8	0
Okoboji, ponded-----	30	0-10 10-52 52-60	30-40 35-45 35-45	1.20-1.25 1.35-1.40 1.35-1.40	0.6-2 0.2-0.6 0.2-0.6	0.22-0.25 0.18-0.20 0.18-0.20	3.0-5.9 6.0-8.9 6.0-8.9	10-18 4.0-8.0 0.2-1.0	.32 .37 .37	.32 .37 .37	5	8	0



Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L15A:													
Glencoe, ponded-----	30	0-42	27-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	8	0
		42-50	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	2.0-6.0	.28	.28			
		50-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Houghton, ponded-----	10	0-80	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---	3	8	0
L16A:													
Muskego, ponded-----	30	0-9	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---	1	8	0
		9-36	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---			
		36-60	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.28	.28			
Blue Earth, ponded----	30	0-50	18-32	0.20-0.80	0.6-2	0.18-0.24	3.0-5.9	10-25	.28	.28	5	8	0
		50-60	18-32	0.20-0.80	0.6-2	0.18-0.24	0.0-2.9	10-25	.28	.28			
Houghton, ponded-----	30	0-80	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---	3	8	0
Klossner, ponded-----	10	0-26	---	0.25-0.55	0.2-6	0.35-0.48	---	25-60	---	---	2	8	0
		26-33	22-35	1.10-1.25	0.6-2	0.22-0.26	3.0-5.9	10-20	.37	.37			
		33-40	22-35	1.30-1.40	0.2-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		40-80	15-32	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
L17B:													
Angus-----	50	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Malardi-----	30	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Moon-----	10	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Cordova-----	10	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L18A:</b>													
Shields-----	85	0-8	27-40	1.15-1.25	0.6-2	0.18-0.22	3.0-5.9	4.0-6.0	.37	.37	5	7	38
		8-41	40-60	1.25-1.35	0.06-0.2	0.10-0.16	6.0-8.9	0.5-2.0	.37	.37			
		41-80	27-50	1.35-1.45	0.2-2	0.11-0.19	6.0-8.9	0.0-0.5	.37	.37			
Lerdal-----	10	0-9	27-32	1.15-1.25	0.2-2	0.18-0.22	3.0-5.9	4.0-6.0	.37	.37	5	7	38
		9-42	35-55	1.25-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-0.8	.32	.32			
		42-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Mazaska-----	5	0-15	27-40	1.15-1.30	0.2-0.6	0.17-0.22	6.0-8.9	4.0-7.0	.28	.28	5	7	38
		15-42	35-50	1.25-1.40	0.06-0.2	0.10-0.16	6.0-8.9	0.5-2.0	.28	.28			
		42-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L19B:</b>													
Moon-----	85	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Finchford-----	15	0-18	5-10	1.50-1.55	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		18-30	2-8	1.50-1.60	6-20	0.04-0.06	0.0-2.9	0.0-1.0	.15	.15			
		30-60	2-5	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
<b>L20B:</b>													
Fedji, silty substratum-----	85	0-10	2-10	1.40-1.55	6-20	0.10-0.13	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		10-30	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.2-1.0	.17	.17			
		30-39	18-35	1.45-1.60	0.2-2	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
		39-60	10-30	1.45-1.60	0.2-2	0.16-0.22	3.0-5.9	0.0-0.5	.43	.43			
Finchford-----	15	0-18	5-10	1.50-1.55	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		18-30	2-8	1.50-1.60	6-20	0.04-0.06	0.0-2.9	0.0-1.0	.15	.15			
		30-60	2-5	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
<b>L21A:</b>													
Canisteo-----	80	0-17	20-30	1.25-1.35	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		17-36	25-35	1.30-1.50	0.6-2	0.12-0.18	0.0-2.9	0.5-1.0	.32	.32			
		36-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cordova-----	15	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L21A:													
Glencoe-----	5	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	25-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L22C2:													
Lester, eroded-----	70	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Angus-----	15	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	12	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	3	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L22D2:													
Lester, eroded-----	80	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	10	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	5	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-23	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L22E:</b>													
Lester, morainic-----	75	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	15	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	5	0-22	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		22-41	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L22F:</b>													
Lester, morainic-----	75	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	10	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	10	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	5	0-22	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		22-41	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L23A:</b>													
Cordova-----	85	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L23A:													
Glencoe-----	10	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	25-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nessel-----	5	0-6	10-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		6-38	18-30	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
		38-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L24A:													
Glencoe, depressional	90	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	25-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cordova-----	10	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L25A:													
Le Sueur-----	80	0-17	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-7.0	.28	.28	5	6	48
		17-36	24-35	1.30-1.45	0.6-2	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
		36-46	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cordova-----	15	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Angus-----	5	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L26A:													
Shorewood-----	85	0-17	30-40	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	4	86
		17-39	36-55	1.20-1.35	0.2-0.6	0.13-0.16	6.0-8.9	1.0-4.0	.32	.32			
		39-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Minnetonka-----	10	0-13	27-35	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		13-35	35-60	1.20-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		35-60	25-40	1.25-1.55	0.2-2	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L26A: Good Thunder-----	5	0-15	30-40	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	4	86
		15-32	36-55	1.20-1.35	0.06-0.6	0.13-0.16	6.0-8.9	1.0-3.0	.32	.32			
		32-80	18-32	1.25-1.35	0.6-2	0.16-0.20	0.0-2.9	0.0-1.0	.37	.37			
L26B: Shorewood-----	90	0-17	30-40	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	4	86
		17-39	36-55	1.20-1.35	0.2-0.6	0.13-0.16	6.0-8.9	1.0-4.0	.32	.32			
		39-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Good Thunder-----	5	0-15	30-40	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	4	86
		15-32	36-55	1.20-1.35	0.06-0.6	0.13-0.16	6.0-8.9	1.0-3.0	.32	.32			
		32-80	18-32	1.25-1.35	0.6-2	0.16-0.20	0.0-2.9	0.0-1.0	.37	.37			
Minnetonka-----	5	0-13	27-35	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		13-35	35-60	1.20-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		35-60	25-40	1.25-1.55	0.2-2	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			
L26C2: Shorewood, eroded-----	95	0-17	30-40	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	1.0-3.0	.28	.28	5	4	86
		17-39	36-55	1.20-1.35	0.2-0.6	0.13-0.16	6.0-8.9	1.0-4.0	.32	.32			
		39-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Minnetonka-----	5	0-13	27-35	1.20-1.40	0.2-0.6	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		13-35	35-60	1.20-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		35-60	25-40	1.25-1.55	0.2-2	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			
L27A: Suckercreek, frequently flooded---	85	0-22	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.28	.28	5	8	0
		22-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
Suckercreek, occasionally flooded	10	0-12	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.24	.24	5	8	0
		12-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
Hanlon, occasionally flooded-----	5	0-40	12-18	1.45-1.55	2-6	0.16-0.18	0.0-2.9	2.0-3.0	.20	.20	5	8	0
		40-63	12-18	1.45-1.55	2-6	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20			
		63-70	5-10	1.55-1.70	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.20	.20			
		70-80	2-18	1.55-1.70	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.24	.24			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
L28A: Suckercreek, occasionally flooded	80	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-12	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.24	.24	5	3	86
		12-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
Suckercreek, frequently flooded---	10	0-22	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.28	.28	5	5	56
		22-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
Hanlon, occasionally flooded-----	10	0-40	12-18	1.45-1.55	2-6	0.16-0.18	0.0-2.9	2.0-3.0	.20	.20	5	3	86
		40-63	12-18	1.45-1.55	2-6	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20			
		63-70	5-10	1.55-1.70	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.20	.20			
		70-80	2-18	1.55-1.70	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.24	.24			
L29A: Hanlon, occasionally flooded-----	80	0-40	12-18	1.45-1.55	2-6	0.16-0.18	0.0-2.9	2.0-3.0	.20	.20	5	3	86
		40-63	12-18	1.45-1.55	2-6	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20			
		63-70	5-10	1.55-1.70	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.20	.20			
		70-80	2-18	1.55-1.70	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.24	.24			
Suckercreek, occasionally flooded	10	0-12	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.24	.24	5	3	86
		12-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
Suckercreek, frequently flooded---	10	0-22	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.28	.28	5	5	56
		22-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
L30A: Medo, surface drained	65	0-27	---	0.25-0.45	0.2-6	0.35-0.45	---	55-85	---	---	2	2	134
		27-35	15-30	1.15-1.65	0.6-6	0.13-0.20	3.0-5.9	5.0-20	.24	.24			
		35-39	15-30	1.15-1.65	0.6-6	0.13-0.20	3.0-5.9	0.5-2.0	.24	.24			
		39-80	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.10			
Medo, drained-----	20	0-27	---	0.25-0.45	0.2-6	0.35-0.45	---	55-85	---	---	2	2	134
		27-35	15-30	1.15-1.65	0.6-6	0.13-0.20	3.0-5.9	5.0-20	.24	.24			
		35-39	15-30	1.15-1.65	0.6-6	0.13-0.20	3.0-5.9	0.5-2.0	.24	.24			
		39-80	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.10			
Mineral soil, drained	15	0-23	6-18	1.30-1.45	2-6	0.16-0.20	0.0-2.9	3.0-15	.20	.20	4	3	86
		23-31	2-6	1.40-1.60	2-6	0.12-0.17	0.0-2.9	0.5-1.0	.20	.20			
		31-60	2-6	1.45-1.65	6-20	0.02-0.08	0.0-2.9	0.0-0.5	.05	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility	Wind erodi- bility
									Kw	Kf	T	group	index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L31A:													
Medo, ponded-----	30	0-20	---	0.25-0.45	0.2-6	0.35-0.45	---	55-85	---	---	2	8	0
		20-34	15-30	1.15-1.65	0.6-6	0.13-0.20	3.0-5.9	5.0-20	.24	.24			
		34-60	0-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.10			
Dassel, ponded-----	30	0-23	6-18	1.30-1.45	2-6	0.16-0.20	0.0-2.9	3.0-15	.20	.20	4	8	0
		23-31	2-6	1.40-1.60	2-6	0.12-0.17	0.0-2.9	0.5-1.0	.20	.20			
		31-60	2-6	1.45-1.65	6-20	0.02-0.08	0.0-2.9	0.0-0.5	.05	.15			
Biscay, ponded-----	30	0-24	18-27	1.20-1.30	0.6-2	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	8	0
		24-29	18-30	1.25-1.35	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		29-60	1-6	1.55-1.65	6-40	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Houghton, ponded-----	5	0-80	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---	3	8	0
Muskego, ponded-----	5	0-9	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---	1	8	0
		9-36	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---			
		36-60	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.28	.28			
L32D:													
Hawick-----	75	0-11	3-6	1.50-1.55	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-15	1-6	1.50-1.60	6-20	0.03-0.10	0.0-2.9	0.0-1.0	.10	.15			
		15-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Crowfork-----	15	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-19	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		19-54	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		54-60	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Tomall-----	10	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
L32F:													
Hawick-----	75	0-11	3-6	1.50-1.55	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-15	1-6	1.50-1.60	6-20	0.03-0.10	0.0-2.9	0.0-1.0	.10	.15			
		15-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Crowfork-----	15	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-19	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		19-54	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		54-60	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			



Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
L32F:		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Tomall-----	10	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
L35A:													
Lerdal-----	80	0-13	15-27	1.15-1.35	0.6-2	0.18-0.22	0.0-2.9	4.0-6.0	.28	.28	5	6	48
		13-47	35-55	1.25-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-0.8	.32	.32			
		47-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Mazaska-----	10	0-15	27-40	1.15-1.30	0.2-0.6	0.17-0.22	6.0-8.9	4.0-7.0	.28	.28	5	7	38
		15-42	35-50	1.25-1.40	0.06-0.2	0.10-0.16	6.0-8.9	0.5-2.0	.28	.28			
		42-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cordova-----	5	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Le Sueur-----	5	0-17	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-7.0	.28	.28	5	6	48
		17-36	24-35	1.30-1.45	0.6-2	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
		36-46	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L36A:													
Hamel, overwash-----	50	0-13	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
		13-29	20-30	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28			
		29-50	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		50-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	43	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	5	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe-----	2	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	25-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L37B:													
Angus, morainic-----	80	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Angus, eroded-----	10	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-58	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		58-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Le Sueur-----	5	0-17	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-7.0	.28	.28	5	6	48
		17-36	24-35	1.30-1.45	0.6-2	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
		36-46	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cordova-----	5	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L38A:													
Rushriver, occasionally flooded	75	0-46	5-18	1.40-1.60	2-6	0.11-0.17	0.0-2.9	1.0-4.0	.24	.24	5	3	86
		46-80	2-10	1.55-1.65	2-20	0.06-0.15	0.0-2.9	0.5-2.0	.17	.17			
Oshawa, frequently flooded-----	15	0-12	18-27	1.20-1.30	0.6-2	0.20-0.22	0.0-2.9	4.0-10	.28	.28	5	6	48
		12-60	18-35	1.30-1.35	0.2-0.6	0.17-0.19	0.0-2.9	0.5-4.0	.28	.28			
Minneiska, occasionally flooded	5	0-10	5-18	1.35-1.50	2-6	0.15-0.18	0.0-2.9	2.0-5.0	.20	.20	5	3	86
		10-60	5-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	1.0-2.0	.28	.28			
Algansee, occasionally flooded-----	5	0-6	1-15	1.35-1.50	6-20	0.10-0.12	0.0-2.9	2.0-4.0	.17	.17	5	2	134
		6-60	1-15	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
L39A:													
Minneiska, occasionally flooded	70	0-10	5-18	1.35-1.50	2-6	0.15-0.18	0.0-2.9	2.0-5.0	.20	.20	5	3	86
		10-60	5-18	1.40-1.60	2-6	0.13-0.18	0.0-2.9	1.0-2.0	.28	.28			
Rushriver, occasionally flooded	15	0-46	5-18	1.40-1.60	2-6	0.11-0.17	0.0-2.9	1.0-4.0	.24	.24	5	3	86
		46-80	2-10	1.55-1.65	2-20	0.06-0.15	0.0-2.9	0.5-2.0	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L39A:													
Oshawa, frequently flooded-----	10	0-12	18-27	1.20-1.30	0.6-2	0.20-0.22	0.0-2.9	4.0-10	.28	.28	5	6	48
		12-60	18-35	1.30-1.35	0.2-0.6	0.17-0.19	0.0-2.9	0.5-4.0	.28	.28			
Algansee, occasionally flooded-----	5	0-6	1-15	1.35-1.50	6-20	0.10-0.12	0.0-2.9	2.0-4.0	.17	.17	5	2	134
		6-60	1-15	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
L40B:													
Angus-----	45	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kilkenny-----	40	0-11	27-30	1.15-1.25	0.2-0.6	0.17-0.19	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		11-35	35-45	1.25-1.35	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		35-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Lerdal-----	10	0-8	27-32	1.15-1.25	0.6-2	0.18-0.22	3.0-5.9	4.0-6.0	.37	.37	5	6	48
		8-12	27-32	1.15-1.25	0.6-2	0.18-0.22	3.0-5.9	0.2-1.5	.37	.37			
		12-41	35-55	1.25-1.35	0.06-0.2	0.13-0.19	6.0-8.9	0.2-0.8	.32	.32			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Mazaska-----	5	0-15	27-40	1.15-1.30	0.2-0.6	0.17-0.22	6.0-8.9	4.0-7.0	.28	.28	5	7	38
		15-42	35-50	1.25-1.40	0.06-0.2	0.10-0.16	6.0-8.9	0.5-2.0	.28	.28			
		42-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L41C2:													
Lester, eroded-----	45	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kilkenny, eroded-----	40	0-9	27-30	1.15-1.25	0.2-0.6	0.17-0.19	3.0-5.9	1.0-3.0	.28	.28	5	6	48
		9-53	35-45	1.25-1.35	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		53-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	10	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility	Wind erodi- bility
									Kw	Kf	T	group	index
L41C2:		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Derrynane-----	5	0-19	30-40	1.20-1.40	0.06-0.6	0.17-0.19	6.0-8.9	5.0-10	.28	.28	5	4	86
		19-39	35-45	1.40-1.55	0.06-0.6	0.13-0.16	6.0-8.9	5.0-10	.28	.28			
		39-65	27-35	1.40-1.55	0.2-0.6	0.15-0.19	3.0-5.9	1.0-5.0	.28	.28			
		65-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L41D2:													
Lester, eroded-----	45	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kilkenny, eroded-----	35	0-9	27-30	1.15-1.25	0.2-0.6	0.17-0.19	3.0-5.9	1.0-3.0	.28	.28	5	6	48
		9-53	35-45	1.25-1.35	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		53-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	10	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Derrynane-----	5	0-19	30-40	1.20-1.40	0.06-0.6	0.17-0.19	6.0-8.9	5.0-10	.28	.28	5	4	86
		19-39	35-45	1.40-1.55	0.06-0.6	0.13-0.16	6.0-8.9	5.0-10	.28	.28			
		39-65	27-35	1.40-1.55	0.2-0.6	0.15-0.19	3.0-5.9	1.0-5.0	.28	.28			
		65-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-23	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L41E:													
Lester-----	45	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kilkenny-----	40	0-7	27-30	1.15-1.25	0.2-0.6	0.17-0.19	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		7-31	35-45	1.25-1.35	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		31-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	5	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L41E: Derrynane-----	5	0-20	30-40	1.20-1.40	0.06-0.6	0.17-0.19	6.0-8.9	5.0-10	.28	.28	5	4	86
		20-40	35-45	1.40-1.55	0.06-0.6	0.13-0.16	6.0-8.9	5.0-10	.28	.28			
		40-54	27-40	1.40-1.55	0.2-0.6	0.15-0.19	3.0-5.9	1.0-5.0	.28	.28			
		54-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L41F: Lester-----	45	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kilkenny-----	35	0-7	27-30	1.15-1.25	0.2-0.6	0.17-0.19	3.0-5.9	4.0-8.0	.28	.28	5	6	48
		7-31	35-45	1.25-1.35	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		31-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	10	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	5	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Derrynane-----	5	0-20	30-40	1.20-1.40	0.06-0.6	0.17-0.19	6.0-8.9	5.0-10	.28	.28	5	4	86
		20-40	35-45	1.40-1.55	0.06-0.6	0.13-0.16	6.0-8.9	5.0-10	.28	.28			
		40-54	27-40	1.40-1.55	0.2-0.6	0.15-0.19	3.0-5.9	1.0-5.0	.28	.28			
		54-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L42B: Kingsley-----	70	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	2.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Gotham-----	25	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L42B: Grays-----	5	0-7	10-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	3	86
		7-25	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		25-60	5-20	1.50-1.70	0.6-2	0.14-0.22	0.0-2.9	0.0-0.4	.43	.43			
L42C: Kingsley-----	70	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	2.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Gotham-----	25	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Grays-----	5	0-7	10-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	3	86
		7-25	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		25-60	5-20	1.50-1.70	0.6-2	0.14-0.22	0.0-2.9	0.0-0.4	.43	.43			
L42D: Kingsley-----	70	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	2.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Gotham-----	25	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Grays-----	5	0-7	10-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	3	86
		7-25	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		25-60	5-20	1.50-1.70	0.6-2	0.14-0.22	0.0-2.9	0.0-0.4	.43	.43			
L42E: Kingsley-----	70	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Gotham-----	25	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
L42E: Grays-----	5	In 0-7 7-25 25-60	Pct 10-20 25-35 5-20	g/cc 1.15-1.30 1.20-1.45 1.50-1.70	In/hr 0.6-2 0.6-2 0.6-2	In/in 0.22-0.24 0.18-0.20 0.14-0.22	Pct 0.0-2.9 3.0-5.9 0.0-2.9	Pct 2.0-4.0 0.0-0.5 0.0-0.4	.32 .43 .43	.32 .43 .43	5	3	86
L42F: Kingsley-----	70	0-7 7-14 14-34 34-60	3-10 3-10 6-18 5-10	1.40-1.60 1.45-1.65 1.60-1.70 1.60-1.70	0.6-2 0.6-2 0.2-0.6 0.2-0.6	0.10-0.18 0.10-0.15 0.13-0.16 0.11-0.14	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	4.0-8.0 0.0-0.5 0.0-0.5 0.0-0.5	.20 .20 .20 .28	.20 .20 .20 .28	5	3	86
Gotham-----	25	0-9 9-18 18-40 40-80	2-4 2-8 2-8 1-3	1.35-1.55 1.40-1.60 1.40-1.60 1.50-1.70	6-20 6-20 6-20 6-20	0.10-0.12 0.06-0.11 0.09-0.11 0.05-0.10	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-2.0 0.5-1.0 0.0-0.5 0.0-0.5	.17 .17 .17 .17	.17 .17 .17 .17	5	2	134
Grays-----	5	0-7 7-25 25-60	10-20 25-35 5-20	1.15-1.30 1.20-1.45 1.50-1.70	0.6-2 0.6-2 0.6-2	0.22-0.24 0.18-0.20 0.14-0.22	0.0-2.9 3.0-5.9 0.0-2.9	2.0-4.0 0.0-0.5 0.0-0.4	.32 .43 .43	.32 .43 .43	5	3	86
L43A: Brouillett, occasionally flooded	80	0-14 14-36 36-44 44-60	18-27 15-22 15-30 8-20	1.20-1.45 1.20-1.50 1.20-1.55 1.35-1.60	0.6-2 0.6-2 0.6-2 0.6-6	0.19-0.24 0.16-0.22 0.15-0.20 0.05-0.18	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	3.0-6.0 3.0-6.0 1.0-3.0 1.0-2.0	.32 .32 .32 .32	.32 .32 .32 .32	5	6	48
Minneiska, occasionally flooded	10	0-10 10-60	5-18 5-18	1.35-1.50 1.40-1.60	2-6 2-6	0.15-0.18 0.13-0.18	0.0-2.9 0.0-2.9	2.0-5.0 1.0-2.0	.20 .28	.20 .28	5	3	86
Rushriver, occasionally flooded	10	0-46 46-80	5-18 2-10	1.40-1.60 1.55-1.65	2-6 2-20	0.11-0.17 0.06-0.15	0.0-2.9 0.0-2.9	1.0-4.0 0.5-2.0	.24 .17	.24 .17	5	3	86
L44A: Nessel-----	85	0-6 6-38 38-80	10-25 18-30 20-30	1.35-1.55 1.40-1.55 1.40-1.55	0.6-2 0.6-2 0.6-2	0.20-0.22 0.15-0.19 0.15-0.19	0.0-2.9 3.0-5.9 1.0-4.2	1.0-3.0 0.5-1.0 0.1-0.5	.28 .32 .32	.28 .32 .37	5	6	48
Cordova-----	10	0-13 13-33 33-80	15-27 28-35 20-30	1.25-1.45 1.35-1.50 1.35-1.55	0.6-2 0.2-0.6 0.6-2	0.18-0.22 0.15-0.19 0.15-0.19	3.0-5.9 3.0-5.9 1.0-4.2	4.0-7.0 1.0-4.0 0.1-0.5	.28 .28 .32	.28 .28 .37	5	6	48

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L44A:</b>													
Angus-----	5	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L45A:</b>													
Dundas-----	65	0-9	10-27	1.30-1.45	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		9-15	15-22	1.35-1.45	0.6-2	0.15-0.19	0.0-2.9	0.5-1.0	.28	.28			
		15-40	20-35	1.40-1.55	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>Cordova-----</b>	25	0-13	15-27	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		13-33	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		33-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>Nessel-----</b>	5	0-6	10-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		6-38	18-30	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
		38-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>Glencoe-----</b>	5	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	25-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L46A:</b>													
Tomall-----	80	0-33	12-20	1.25-1.40	0.6-2	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
<b>Rasset-----</b>	10	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
<b>Malardi-----</b>	10	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
<b>L47A:</b>													
Eden Prairie-----	85	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			



Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L47A:													
Malardi-----	10	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Rasset-----	5	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
L47B:													
Eden Prairie-----	80	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Malardi-----	10	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Rasset-----	10	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
L47C:													
Eden Prairie-----	70	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
Malardi-----	10	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Rasset-----	10	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Hawick-----	10	0-7	5-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		7-11	1-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-1.0	.10	.15			
		11-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L49A: Klossner, surface drained-----	65	0-26	---	0.25-0.55	0.2-6	0.35-0.48	---	25-60	---	---	2	2	134
		26-33	22-35	1.10-1.25	0.6-2	0.22-0.26	3.0-5.9	10-20	.37	.37			
		33-40	22-35	1.30-1.40	0.2-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		40-80	15-32	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
Klossner, drained----	20	0-26	---	0.25-0.55	0.2-6	0.35-0.48	---	25-60	---	---	2	2	134
		26-36	22-35	1.10-1.25	0.6-2	0.22-0.26	3.0-5.9	10-20	.37	.37			
		36-48	22-35	1.30-1.40	0.2-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		48-80	15-32	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
Mineral soil, drained	15	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	18-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	15-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	15-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L50A: Houghton, surface drained-----	40	0-80	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---	3	2	134
Muskego, surface drained-----	40	0-9	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	.02	.02	1	2	134
		9-36	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	.02	.02			
		36-60	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.28	.28			
Klossner, drained----	10	0-26	---	0.25-0.55	0.2-6	0.35-0.48	---	25-60	.02	.02	2	2	134
		26-36	22-35	1.10-1.25	0.6-2	0.22-0.26	3.0-5.9	10-20	.37	.37			
		36-48	22-35	1.30-1.40	0.2-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		48-80	15-32	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
Mineral soil, drained	10	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	18-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	15-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	15-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L52C: Urban land-----	75	---	---	---	---	---	---	---	---	---	-	---	---
Lester-----	20	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
L52C: Kingsley-----	5	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	2.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
L52E: Urban land-----	75	---	---	---	---	---	---	---	---	---	-	---	---
Lester-----	20	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kingsley-----	5	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
L53B: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Moon-----	20	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Lester-----	10	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L54A: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Dundas-----	20	0-9	10-27	1.30-1.45	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		9-15	15-22	1.35-1.45	0.6-2	0.15-0.19	0.0-2.9	0.5-1.0	.28	.28			
		15-40	20-35	1.40-1.55	0.2-0.6	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nessel-----	10	0-6	10-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		6-38	18-30	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
		38-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L55B: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Malardi-----	20	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Rasset-----	5	0-15	6-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
		15-28	10-18	1.40-1.60	2-6	0.12-0.19	0.0-2.9	1.0-2.0	.20	.20			
		28-36	2-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		36-80	1-5	1.50-1.70	6-40	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Eden Prairie-----	5	0-10	5-18	1.30-1.40	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-16	10-18	1.35-1.50	2-6	0.12-0.14	0.0-2.9	0.0-1.0	.20	.20			
		16-26	0-8	1.50-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
		26-80	0-5	1.50-1.60	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L55C: Urban land-----	70	---	---	---	---	---	---	---	---	---	-	---	---
Malardi-----	20	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Hawick-----	5	0-7	5-15	1.35-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		7-11	1-10	1.50-1.65	6-20	0.03-0.10	0.0-2.9	0.0-1.0	.10	.15			
		11-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Crowfork-----	5	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L56A: Muskego, frequently flooded-----	45	0-9	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---	1	8	0
		9-36	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---	---			
		36-60	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.28	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L56A:													
Klossner, frequently flooded-----	45	0-26	---	0.25-0.55	0.2-6	0.35-0.48	---	25-60	---	---	2	8	0
		26-33	22-35	1.10-1.25	0.6-2	0.22-0.26	3.0-5.9	10-20	.37	.37			
		33-40	22-35	1.30-1.40	0.2-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		40-80	15-32	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
Suckercreek, frequently flooded---	10	0-22	7-20	1.20-1.60	2-6	0.18-0.24	0.0-2.9	3.0-6.0	.28	.28	5	8	0
		22-80	2-18	1.45-1.65	2-6	0.08-0.20	0.0-2.9	0.2-3.0	.28	.28			
L58B:													
Koronis-----	60	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	56
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	2.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Forestcity-----	10	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.2-0.5	.24	.24			
Gotham-----	5	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
L58C2:													
Koronis, eroded-----	55	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley, eroded-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	1.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Forestcity-----	15	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.2-0.5	.24	.24			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L58C2:													
Gotham-----	5	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
L58D2:													
Koronis, eroded-----	55	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley, eroded-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	1.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Forestcity-----	15	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.2-0.5	.24	.24			
Gotham-----	5	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
L58E:													
Koronis-----	55	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Forestcity-----	15	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
Gotham-----	5	0-9	2-4	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17	5	2	134
		9-18	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.5-1.0	.17	.17			
		18-40	2-8	1.40-1.60	6-20	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
		40-80	1-3	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L59A:</b>													
Forestcity-----	70	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	2.0-5.0	.20	.20	5	3	86
		22-43	18-28	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-8.0	.32	.32			
		43-60	12-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.0-1.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
Lundlake, depressional	25	0-20	20-27	1.20-1.45	0.2-2	0.17-0.22	3.0-5.9	5.0-12	.28	.28	5	6	48
		20-46	20-30	1.20-1.45	0.2-2	0.17-0.22	3.0-5.9	2.0-5.0	.28	.28			
		46-54	16-27	1.30-1.50	0.6-2	0.15-0.19	0.0-2.9	0.0-1.0	.28	.28			
		54-60	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
Marcellon-----	5	0-13	13-20	1.25-1.35	0.6-2	0.17-0.24	0.0-2.9	3.0-7.0	.24	.24	5	5	56
		13-32	20-27	1.45-1.55	0.6-2	0.12-0.18	3.0-5.9	0.0-1.0	.32	.32			
		32-60	10-20	1.55-1.65	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
<b>L60B:</b>													
Angus-----	65	0-8	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.40-1.55	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Moon-----	30	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Hamel-----	5	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L61C2:</b>													
Lester, eroded-----	60	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Metea, eroded-----	25	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Terril-----	12	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L61C2:													
Hamel-----	3	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L61D2:													
Lester, eroded-----	55	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Metea, eroded-----	25	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Terril-----	12	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-23	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	3	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L61E:													
Lester-----	55	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Metea-----	25	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	2.0-5.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Terril-----	10	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			



Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L61E:													
Hamel-----	5	0-22	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		22-41	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.34-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L62B:													
Koronis-----	55	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley-----	20	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	2.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Malardi-----	20	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Forestcity-----	5	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.2-0.5	.24	.24			
L62C2:													
Koronis, eroded-----	40	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley, eroded-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	1.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Malardi, eroded-----	25	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L62C2:													
Forestcity-----	10	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
L62D2:													
Koronis, eroded-----	40	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley, eroded-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	1.0-4.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Malardi, eroded-----	25	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	1.0-4.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Forestcity-----	10	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
L62E:													
Koronis-----	40	0-10	10-20	1.20-1.40	2-6	0.20-0.22	0.0-2.9	1.0-4.0	.28	.28	5	3	86
		10-30	18-24	1.30-1.50	0.6-6	0.15-0.19	0.0-2.9	0.0-2.0	.28	.28			
		30-60	12-20	1.35-1.60	2-6	0.11-0.16	0.0-2.9	0.0-1.0	.28	.28			
Kingsley-----	25	0-7	3-10	1.40-1.60	0.6-2	0.10-0.18	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		7-14	3-10	1.45-1.65	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
		14-34	6-18	1.60-1.70	0.2-0.6	0.13-0.16	0.0-2.9	0.0-0.5	.20	.20			
		34-60	5-10	1.60-1.70	0.2-0.6	0.11-0.14	0.0-2.9	0.0-0.5	.28	.28			
Malardi-----	25	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	4.0-8.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Forestcity-----	10	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		22-36	12-20	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-5.0	.32	.32			
		36-60	18-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.5-2.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L64A:													
Tadkee-----	50	0-6	2-12	1.20-1.60	6-20	0.10-0.12	0.0-2.9	4.0-10	.17	.17	5	2	134
		6-34	0-10	1.45-1.60	6-20	0.05-0.12	0.0-2.9	0.1-0.5	.17	.17			
		34-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Tadkee, depressional--	36	0-6	2-12	0.25-0.45	0.2-6	0.35-0.45	0.0-2.9	15-30	.10	.10	5	2	134
		6-27	0-10	1.45-1.60	6-20	0.05-0.12	0.0-2.9	0.1-0.5	.17	.17			
		27-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Better drained soil---	8	0-6	3-6	1.50-1.55	6-20	0.08-0.12	0.0-2.9	1.0-4.0	.17	.17	5	2	134
		6-25	2-6	1.50-1.55	6-20	0.07-0.11	0.0-2.9	0.5-1.0	.17	.17			
		25-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Granby-----	4	0-12	2-14	1.20-1.60	6-20	0.10-0.12	0.0-2.9	4.0-10	.17	.17	5	2	134
		12-24	0-14	1.45-1.60	6-20	0.05-0.12	0.0-2.9	0.0-0.5	.17	.17			
		24-60	0-10	1.45-1.60	6-20	0.05-0.09	0.0-2.9	0.0-0.5	.17	.17			
Less sandy soil-----	2	0-4	2-12	1.20-1.60	6-20	0.10-0.12	0.0-2.9	4.0-10	.17	.17	5	2	134
		4-20	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		20-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L70C2:													
Lester, eroded-----	60	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Malardi, eroded-----	25	0-10	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		10-15	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		15-29	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		29-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Terril-----	12	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	3	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L70D2:</b>													
Lester, eroded-----	55	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Malardi, eroded-----	25	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Terril-----	12	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	5	0-23	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	3	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L70E:</b>													
Lester-----	55	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Malardi-----	25	0-9	5-18	1.40-1.55	2-6	0.13-0.15	0.0-2.9	4.0-8.0	.20	.20	3	3	86
		9-14	10-18	1.45-1.65	2-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
		14-21	1-8	1.55-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.05	.10			
		21-80	0-5	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Terril-----	10	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	5	0-22	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		22-41	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
L70E:		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Ridgeton-----	5	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L71C:													
Metee-----	80	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
Lester-----	15	0-7	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Moon-----	5	0-8	2-8	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		8-24	2-8	1.45-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
		24-46	18-30	1.40-1.55	0.2-2	0.15-0.18	3.0-5.9	0.0-0.5	.37	.37			
		46-60	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.0-0.5	.32	.37			
L72A:													
Lundlake, depressional	90	0-20	20-27	1.20-1.45	0.2-2	0.17-0.22	3.0-5.9	5.0-12	.28	.28	5	6	48
		20-46	20-30	1.20-1.45	0.2-2	0.17-0.22	3.0-5.9	2.0-5.0	.28	.28			
		46-54	16-27	1.30-1.50	0.6-2	0.15-0.19	0.0-2.9	0.0-1.0	.28	.28			
		54-60	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
Forestcity-----	10	0-22	10-18	1.20-1.40	2-6	0.14-0.16	0.0-2.9	2.0-5.0	.20	.20	5	3	86
		22-43	18-28	1.30-1.50	0.6-2	0.14-0.17	3.0-5.9	2.0-8.0	.32	.32			
		43-60	12-28	1.30-1.50	0.6-6	0.11-0.17	3.0-5.9	0.0-1.0	.32	.32			
		60-80	10-18	1.40-1.60	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.24			
L110E:													
Lester-----	50	0-5	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		34-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	30	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.45-1.70	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cokato-----	10	0-16	22-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.28	.28	5	6	48
		16-30	25-35	1.40-1.50	0.6-2	0.15-0.19	3.0-5.9	1.0-2.0	.37	.37			
		30-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>L110E:</b>													
Belview-----	6	0-9	18-27	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.28	.28	5	4L	86
		9-50	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		50-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	2	0-22	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		22-41	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	2	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.45-1.70	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L110F:</b>													
Lester-----	55	0-6	20-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		6-25	24-32	1.45-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		25-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton-----	30	0-32	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.45-1.70	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cokato-----	8	0-16	22-27	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.28	.28	5	6	48
		16-30	25-35	1.40-1.50	0.6-2	0.15-0.19	3.0-5.9	1.0-2.0	.37	.37			
		30-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Belview-----	4	0-9	18-27	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	3.0-8.0	.28	.28	5	4L	86
		9-50	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		50-60	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	2	0-24	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.45-1.70	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel-----	1	0-22	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		22-41	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		41-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
<b>L131A:</b>													
Litchfield-----	85	0-20	5-10	1.30-1.50	6-20	0.10-0.12	0.0-2.9	1.5-3.0	.17	.17	4	2	134
		20-33	5-10	1.40-1.65	2-6	0.07-0.16	0.0-2.9	0.5-1.0	.17	.17			
		33-40	10-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	0.2-0.8	.32	.32			
		40-80	1-8	1.45-1.65	6-20	0.08-0.10	0.0-2.9	0.1-0.5	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
L131A:		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Darfur-----	10	0-16	13-16	1.30-1.50	0.6-6	0.15-0.17	0.0-2.9	4.0-6.0	.20	.20	4	3	86
		16-32	10-23	1.35-1.50	2-6	0.15-0.17	0.0-2.9	0.2-0.8	.20	.20			
		32-80	2-12	1.45-1.60	2-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
Crowfork-----	5	0-11	2-10	1.40-1.60	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	5	2	134
		11-20	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		20-76	2-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
		76-80	0-5	1.50-1.70	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.15	.15			
L132A:													
Hamel-----	50	0-24	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	6	48
		24-46	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe, depressional	30	0-13	25-27	1.35-1.45	0.6-2	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	25-35	1.35-1.45	0.2-2	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	25-35	1.35-1.50	0.2-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hamel, overwash-----	15	0-13	20-27	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
		13-29	20-30	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28			
		29-50	24-35	1.45-1.60	0.2-0.6	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		50-80	20-30	1.35-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril-----	5	0-27	18-26	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.40-1.55	0.6-2	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.40-1.55	0.6-2	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
M-W. Water, miscellaneous													
U1A. Urban land-Udorthents, wet substratum													
U2A. Udorthents, wet substratum													
U3B. Udorthents (cut and fill land)													





Table 19.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D1B:						
Anoka, terrace-----	55	0-10	2.0-8.0	5.1-6.5	---	---
		10-60	1.0-4.0	5.1-7.3	---	---
Zimmerman, terrace---	40	0-9	2.0-5.0	5.1-6.5	---	---
		9-60	1.0-6.0	5.1-7.3	---	---
Kost-----	5	0-14	3.0-10	5.1-7.3	---	---
		14-33	0.0-4.0	5.1-7.3	---	---
		33-60	0.0-4.0	5.6-7.3	---	---
D1C:						
Anoka, terrace-----	45	0-10	2.0-8.0	5.1-6.5	---	---
		10-60	1.0-4.0	5.1-7.3	---	---
Zimmerman, terrace---	45	0-9	2.0-5.0	5.1-6.5	---	---
		9-60	1.0-6.0	5.1-7.3	---	---
Kost-----	10	0-14	3.0-10	5.1-7.3	---	---
		14-33	0.0-4.0	5.1-7.3	---	---
		33-60	0.0-4.0	5.6-7.3	---	---
D2A:						
Elkriver, rarely flooded-----	85	0-10	6.0-19	5.1-7.3	---	---
		10-35	6.0-19	5.1-7.3	---	---
		35-39	4.0-15	5.6-7.8	0-8	---
		39-80	0.0-6.0	5.6-7.8	0-8	---
Mosford, rarely flooded-----	10	0-11	7.0-19	5.1-7.3	---	---
		11-16	4.0-15	5.1-7.3	---	---
		16-57	1.0-2.0	5.1-7.3	---	---
		57-80	1.0-2.0	5.1-7.8	0-15	---
Elkriver, occasionally flooded	5	0-10	6.0-19	5.1-7.3	---	---
		10-26	6.0-19	5.1-7.3	---	---
		26-32	4.0-15	5.6-7.8	0-8	---
		32-80	0.0-6.0	5.6-7.8	0-8	---
D3A:						
Elkriver, occasionally flooded	80	0-10	6.0-19	5.1-7.3	---	---
		10-26	6.0-19	5.1-7.3	---	---
		26-32	4.0-15	5.6-7.8	0-8	---
		32-80	0.0-6.0	5.6-7.8	0-8	---
Fordum, frequently flooded-----	15	0-7	10-35	5.1-7.3	---	---
		7-28	3.0-20	5.1-7.3	---	---
		28-80	2.0-6.0	5.6-7.3	---	---
Winterfield, occasionally flooded	5	0-8	2.0-15	5.6-7.3	---	---
		8-20	1.0-10	5.6-7.3	---	---
		20-80	1.0-5.0	5.6-7.3	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D4A:						
Dorset-----	90	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-27	3.0-8.0	6.6-8.4	0-30	---
		27-60	0.0-5.0	7.4-8.4	5-15	---
Verndale, acid substratum-----	8	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Almora-----	2	0-10	12-20	5.6-7.3	---	---
		10-14	8.0-14	5.6-7.3	---	---
		14-36	10-17	5.6-7.3	---	---
		36-41	2.0-7.0	5.6-7.8	0-5	---
		41-80	1.0-3.0	7.4-8.4	5-30	---
D4B:						
Dorset-----	85	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-27	3.0-8.0	6.6-8.4	0-30	---
		27-60	0.0-5.0	7.4-8.4	5-15	---
Verndale, acid substratum-----	10	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Almora-----	5	0-10	12-20	5.6-7.3	---	---
		10-14	8.0-14	5.6-7.3	---	---
		14-36	10-17	5.6-7.3	---	---
		36-41	2.0-7.0	5.6-7.8	0-5	---
		41-80	1.0-3.0	7.4-8.4	5-30	---
D4C:						
Dorset-----	75	0-11	10-23	5.6-7.3	---	---
		11-19	7.0-17	5.6-7.3	---	---
		19-32	3.0-8.0	6.6-8.4	0-30	---
		32-80	0.0-5.0	7.4-8.4	5-15	---
Verndale, acid substratum-----	15	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Almora-----	10	0-10	12-20	5.6-7.3	---	---
		10-14	8.0-14	5.6-7.3	---	---
		14-36	10-17	5.6-7.3	---	---
		36-41	2.0-7.0	5.6-7.8	0-5	---
		41-80	1.0-3.0	7.4-8.4	5-30	---
D5B:						
Dorset-----	65	0-11	10-23	5.6-7.3	---	---
		11-19	7.0-17	5.6-7.3	---	---
		19-32	3.0-8.0	6.6-8.4	0-30	---
		32-80	0.0-5.0	7.4-8.4	5-15	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D5B:						
Two Inlets-----	25	0-9	2.0-8.0	5.6-7.3	---	---
		9-19	2.0-9.0	6.1-7.3	---	---
		19-80	0.0-2.0	7.4-8.4	5-30	---
Verndale, acid substratum-----	5	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Southhaven-----	5	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
D5C:						
Dorset-----	55	0-11	10-23	5.6-7.3	---	---
		11-19	7.0-17	5.6-7.3	---	---
		19-32	3.0-8.0	6.6-8.4	0-30	---
		32-80	0.0-5.0	7.4-8.4	5-15	---
Two Inlets-----	30	0-9	2.0-8.0	5.6-7.3	---	---
		9-19	2.0-9.0	6.1-7.3	---	---
		19-80	0.0-2.0	7.4-8.4	5-30	---
Southhaven-----	10	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
Verndale, acid substratum-----	5	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
D5D:						
Dorset-----	50	0-9	10-23	5.6-7.3	---	---
		9-14	7.0-17	5.6-7.3	---	---
		14-25	3.0-8.0	6.6-8.4	0-30	---
		25-80	0.0-5.0	7.4-8.4	5-15	---
Two Inlets-----	35	0-9	2.0-8.0	5.6-7.3	---	---
		9-19	2.0-9.0	6.1-7.3	---	---
		19-80	0.0-2.0	7.4-8.4	5-30	---
Southhaven-----	10	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
Verndale, acid substratum-----	5	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D6A:						
Verndale, acid substratum-----	90	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Dorset-----	7	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-27	3.0-8.0	6.6-8.4	0-30	---
		27-60	0.0-5.0	7.4-8.4	5-15	---
Hubbard-----	3	0-20	6.0-16	5.1-7.3	---	---
		20-32	1.0-4.0	5.1-7.3	---	---
		32-80	0.0-4.0	5.6-7.8	0-15	---
D6B:						
Verndale, acid substratum-----	85	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	2.0-4.0	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Dorset-----	10	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-27	3.0-8.0	6.6-8.4	0-30	---
		27-60	0.0-5.0	7.4-8.4	5-15	---
Hubbard-----	5	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-80	0.0-4.0	5.6-7.8	0-15	---
D6C:						
Verndale, acid substratum-----	80	0-10	7.0-15	5.1-7.3	---	---
		10-19	3.0-12	5.1-7.3	---	---
		19-28	0.0-3.5	5.1-7.3	---	---
		28-80	0.0-3.0	5.1-7.3	---	---
Dorset-----	15	0-11	10-23	5.6-7.3	---	---
		11-19	7.0-17	5.6-7.3	---	---
		19-32	3.0-8.0	6.6-8.4	0-30	---
		32-80	0.0-5.0	7.4-8.4	5-15	---
Hubbard-----	5	0-12	6.0-16	5.1-7.3	---	---
		12-33	1.0-3.0	5.1-7.3	---	---
		33-80	0.0-4.0	5.6-7.8	0-15	---
D7A:						
Hubbard-----	95	0-20	6.0-16	5.1-7.3	---	---
		20-32	1.0-4.0	5.1-7.3	---	---
		32-80	0.0-4.0	5.6-7.8	0-15	---
Mosford-----	5	0-13	7.0-9.0	5.1-7.3	---	---
		13-16	4.0-22	5.1-7.3	---	---
		16-35	1.0-3.0	5.1-7.3	---	---
		35-80	0.0-2.0	5.1-7.8	0-15	---
D7B:						
Hubbard-----	90	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-80	0.0-4.0	5.6-7.8	0-15	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D7B:						
Mosford-----	10	0-13	7.0-9.0	5.1-7.3	---	---
		13-16	4.0-22	5.1-7.3	---	---
		16-35	1.0-3.0	5.1-7.3	---	---
		35-80	0.0-2.0	5.1-7.8	0-15	---
D7C:						
Hubbard-----	80	0-12	6.0-16	5.1-7.3	---	---
		12-33	1.0-4.0	5.1-7.3	---	---
		33-80	0.0-4.0	5.6-7.8	0-15	---
Sandberg-----	10	0-14	2.0-12	5.6-7.8	0-5	---
		14-32	1.0-6.0	6.1-7.8	0-5	---
		32-80	1.0-4.0	7.4-8.4	5-10	---
Mosford-----	10	0-13	7.0-9.0	5.1-7.3	---	---
		13-16	4.0-22	5.1-7.3	---	---
		16-35	1.0-3.0	5.1-7.3	---	---
		35-80	0.0-2.0	5.1-7.8	0-15	---
D8B:						
Sandberg-----	95	0-14	2.0-12	5.6-7.8	0-5	---
		14-32	1.0-6.0	6.1-7.8	0-5	---
		32-80	1.0-4.0	7.4-8.4	5-10	---
Arvilla, MAP >25-----	5	0-14	5.0-20	6.1-7.3	---	---
		14-17	5.0-15	6.1-7.3	---	---
		17-80	1.0-5.0	7.4-7.8	5-20	---
D8C:						
Sandberg-----	80	0-14	2.0-12	5.6-7.8	0-5	---
		14-32	1.0-6.0	6.1-7.8	0-5	---
		32-80	1.0-4.0	7.4-8.4	5-10	---
Corliss-----	15	0-7	3.0-12	6.1-7.8	0-15	---
		7-28	1.0-6.0	6.1-7.8	0-15	---
		28-80	0.0-3.0	7.4-8.4	5-30	---
Southhaven-----	5	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
D8D:						
Sandberg-----	80	0-11	2.0-12	5.6-7.8	0-5	---
		11-27	1.0-6.0	6.1-7.8	0-5	---
		27-80	1.0-4.0	7.4-8.4	5-10	---
Corliss-----	10	0-7	3.0-12	6.1-7.8	0-15	---
		7-28	1.0-6.0	6.1-7.8	0-15	---
		28-80	0.0-3.0	7.4-8.4	5-30	---
Southhaven-----	10	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
D8E:						
Sandberg-----	80	0-11	2.0-12	5.6-7.8	0-5	---
		11-27	1.0-6.0	6.1-7.8	0-5	---
		27-80	1.0-4.0	7.4-8.4	5-10	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D8E:						
Corliss-----	10	0-7	3.0-12	6.1-7.8	0-15	---
		7-28	1.0-6.0	6.1-7.8	0-15	---
		28-80	0.0-3.0	7.4-8.4	5-30	---
Southhaven-----	10	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
D10A:						
Forada-----	95	0-10	10-20	6.1-7.3	---	---
		10-33	5.0-15	6.1-7.3	---	---
		33-60	1.0-5.0	6.1-8.4	0-15	---
Depressional soil----	5	0-19	10-20	6.1-7.3	---	---
		19-38	5.0-15	6.1-7.3	---	---
		38-60	1.0-5.0	6.1-8.4	0-15	---
D11A:						
Lindaas-----	80	0-16	18-30	6.6-7.3	---	---
		16-32	20-40	6.6-7.3	---	---
		32-80	14-24	7.4-8.4	10-30	---
Lindaas, sandy substratum-----	10	0-14	18-30	6.6-7.3	---	---
		14-20	20-40	6.6-7.3	---	---
		20-62	14-24	7.4-8.4	10-30	---
		62-80	1.0-5.0	7.4-8.4	5-30	---
Depressional soil----	10	0-23	18-30	6.6-7.3	---	---
		23-30	20-40	6.6-7.3	---	---
		30-80	14-24	7.4-8.4	10-30	---
D12B:						
Bygland, MAP >25-----	70	0-9	15-35	6.1-7.3	---	---
		9-23	15-30	6.1-7.8	0-5	---
		23-27	10-25	7.4-8.4	5-20	---
		27-80	10-20	7.4-8.4	5-15	---
Bygland, sandy substratum-----	15	0-14	15-35	6.1-7.3	---	---
		14-26	15-30	6.1-7.8	0-5	---
		26-38	10-25	7.4-8.4	5-20	---
		38-63	10-20	7.4-8.4	5-15	---
		63-80	1.0-5.0	7.4-8.4	5-30	---
Lindaas-----	10	0-16	18-30	6.6-7.3	---	---
		16-32	20-40	6.6-7.3	---	---
		32-80	14-24	7.4-8.4	10-30	---
Depressional soil----	5	0-23	18-30	6.6-7.3	---	---
		23-30	20-40	6.6-7.3	---	---
		30-80	14-24	7.4-8.4	10-30	---
D12C2:						
Bygland, MAP >25-----	70	0-7	15-35	6.1-7.3	---	---
		7-20	15-30	6.1-7.8	0-5	---
		20-26	10-25	7.4-8.4	5-20	---
		26-80	10-20	7.4-8.4	5-15	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D12C2: Bygland, sandy substratum-----	15	0-14	15-35	6.1-7.3	---	---
		14-26	15-30	6.1-7.8	0-5	---
		26-38	10-25	7.4-8.4	5-20	---
		38-63	10-20	7.4-8.4	5-15	---
		63-80	1.0-5.0	7.4-8.4	5-30	---
Lindaas-----	10	0-16	18-30	6.6-7.3	---	---
		16-32	20-40	6.6-7.3	---	---
		32-80	14-24	7.4-8.4	10-30	---
Depressional soil----	5	0-23	18-30	6.6-7.3	---	---
		23-30	20-40	6.6-7.3	---	---
		30-80	14-24	7.4-8.4	10-30	---
D13A: Langola, terrace-----	85	0-15	3.0-14	5.1-6.5	---	---
		15-31	1.0-5.0	5.1-6.5	---	---
		31-39	4.0-11	5.1-6.5	---	---
		39-43	2.0-10	5.6-7.3	---	---
		43-60	2.0-10	5.6-7.3	---	---
Duelm-----	10	0-16	5.0-18	5.6-7.3	---	---
		16-30	0.0-4.0	5.1-7.3	---	---
		30-80	0.0-5.0	5.6-7.8	0-15	---
Hubbard-----	5	0-20	6.0-16	5.1-7.3	---	---
		20-32	1.0-4.0	5.1-7.3	---	---
		32-80	0.0-4.0	5.6-7.8	0-15	---
D13B: Langola, terrace-----	85	0-15	3.0-14	5.1-6.5	---	---
		15-31	1.0-5.0	5.1-6.5	---	---
		31-39	4.0-11	5.1-6.5	---	---
		39-43	2.0-10	5.6-7.3	---	---
		43-60	2.0-10	5.6-7.3	---	---
Hubbard-----	10	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-80	0.0-4.0	5.6-7.8	0-15	---
Duelm-----	5	0-16	5.0-18	5.6-7.3	---	---
		16-30	0.0-4.0	5.1-7.3	---	---
		30-80	0.0-5.0	5.6-7.8	0-15	---
D15A: Seelyeville, drained	65	0-10	140-200	5.1-7.3	---	---
		10-60	140-200	5.1-7.3	---	---
Markey, drained-----	25	0-28	110-170	4.5-7.3	---	---
		28-32	2.0-13	5.6-7.3	---	---
		32-80	1.0-3.0	5.6-7.3	---	---
Mineral soil, drained	10	0-18	10-25	5.6-7.3	---	---
		18-29	2.0-10	5.1-6.5	---	---
		29-80	1.0-5.0	5.6-7.3	---	---
D16A: Seelyeville, ponded--	45	0-15	140-200	5.1-7.3	---	---
		15-80	140-200	5.1-7.3	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D16A:						
Markey, ponded-----	45	0-27	110-170	4.5-7.3	---	---
		27-32	2.0-13	5.6-7.3	---	---
		32-80	1.0-3.0	5.6-7.3	---	---
Mineral soil, ponded	10	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---
D17A:						
Duelm-----	90	0-16	5.0-18	5.6-7.3	---	---
		16-30	0.0-4.0	5.1-7.3	---	---
		30-80	0.0-5.0	5.6-7.8	0-15	---
Isan-----	8	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---
Hubbard-----	2	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-80	0.0-4.0	5.6-7.8	0-15	---
D18B:						
Braham, terrace-----	85	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-42	7.0-21	5.1-7.3	---	---
		42-60	7.0-21	7.4-8.4	10-20	0-1
Duelm-----	15	0-16	5.0-18	5.6-7.3	---	---
		16-30	0.0-4.0	5.1-7.3	---	---
		30-80	0.0-5.0	5.6-7.8	0-15	---
D19A:						
Fordum, frequently flooded-----	65	0-7	10-35	5.1-7.3	---	---
		7-28	3.0-20	5.1-7.3	---	---
		28-80	2.0-6.0	5.6-7.3	---	---
Winterfield, frequently flooded--	25	0-8	2.0-15	5.6-7.3	---	---
		8-20	1.0-10	5.6-7.3	---	---
		20-80	1.0-5.0	5.6-7.3	---	---
Fordum, occasionally flooded-----	10	0-9	10-45	5.1-7.3	---	---
		9-38	3.0-20	5.1-7.3	---	---
		38-80	2.0-6.0	5.6-7.3	---	---
D20A:						
Isan-----	85	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---
Isan, depressiona---	10	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---
Duelm-----	5	0-16	5.0-18	5.6-7.3	---	---
		16-30	0.0-4.0	5.1-7.3	---	---
		30-80	0.0-5.0	5.6-7.8	0-15	---



Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D21A:						
Isan, depressional---	85	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---
Isan-----	15	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---
D23A:						
Southhaven-----	90	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
Dorset-----	5	0-11	10-23	5.6-7.3	---	---
		11-19	7.0-17	5.6-7.3	---	---
		19-32	3.0-8.0	6.6-8.4	0-30	---
		32-80	0.0-5.0	7.4-8.4	5-15	---
Mosford-----	5	0-13	7.0-9.0	5.1-7.3	---	---
		13-16	4.0-22	5.1-7.3	---	---
		16-35	1.0-3.0	5.1-7.3	---	---
		35-80	0.0-2.0	5.1-7.8	0-15	---
D24A:						
Sedgeville, occasionally flooded	85	0-15	10-45	6.1-7.8	0-20	---
		15-45	5.0-20	6.1-7.8	0-20	---
		45-80	2.0-5.0	6.6-8.4	0-20	---
Elkriver, occasionally flooded	15	0-10	6.0-19	5.1-7.3	---	---
		10-26	6.0-19	5.1-7.3	---	---
		26-32	4.0-15	5.6-7.8	0-8	---
		32-80	0.0-6.0	5.6-7.8	0-8	---
D25A:						
Soderville, terrace--	90	0-9	1.0-8.0	5.1-6.5	---	---
		9-24	1.0-6.0	5.1-6.5	---	---
		24-31	2.0-7.0	5.1-6.5	---	---
		31-60	1.0-3.0	5.1-6.5	---	---
Forada-----	10	0-10	10-20	6.1-7.3	---	---
		10-33	5.0-15	6.1-7.3	---	---
		33-60	1.0-5.0	6.1-8.4	0-15	---
D26A:						
Foldahl, MAP >25-----	90	0-16	2.0-13	5.6-6.6	---	---
		16-31	1.0-5.0	5.6-6.6	---	---
		31-40	7.0-21	6.1-7.3	---	---
		40-60	7.0-21	7.4-8.4	10-20	0-1
Hubbard-----	5	0-20	6.0-16	5.1-7.3	---	---
		20-32	1.0-4.0	5.1-7.3	---	---
		32-80	0.0-4.0	5.6-7.8	0-15	---
Isan-----	5	0-14	10-25	5.6-7.3	---	---
		14-34	2.0-10	5.1-6.5	---	---
		34-80	1.0-5.0	5.6-7.3	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D27A:						
Dorset, loamy substratum-----	80	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-60	3.0-8.0	6.6-8.4	0-30	---
		60-80	2.0-15	6.6-7.8	0-20	---
Dorset-----	15	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-27	3.0-8.0	6.6-8.4	0-30	---
		27-60	0.0-5.0	7.4-8.4	5-15	---
Southhaven-----	5	0-48	15-34	5.1-7.3	---	---
		48-62	7.0-22	5.1-7.3	---	---
		62-66	2.0-4.0	5.1-7.3	---	---
		66-80	1.0-3.0	5.6-7.8	0-10	---
D28B:						
Urban land-----	75	---	---	---	---	---
Bygland, MAP >25----	20	0-9	15-35	6.1-7.3	---	---
		9-23	15-30	6.1-7.8	0-5	---
		23-27	10-25	7.4-8.4	5-20	---
		27-80	10-20	7.4-8.4	5-15	---
Bygland, sandy substratum-----	5	0-14	15-35	6.1-7.3	---	---
		14-26	15-30	6.1-7.8	0-5	---
		26-38	10-25	7.4-8.4	5-20	---
		38-63	10-20	7.4-8.4	5-15	---
		63-80	1.0-5.0	7.4-8.4	5-30	---
D29B:						
Urban land-----	70	---	---	---	---	---
Hubbard, bedrock substratum-----	20	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-60	0.0-4.0	5.6-7.8	0-15	---
		60-80	---	---	---	---
Hubbard-----	5	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-80	0.0-4.0	5.6-7.8	0-15	---
Mosford-----	5	0-13	7.0-9.0	5.1-7.3	---	---
		13-16	4.0-22	5.1-7.3	---	---
		16-35	1.0-3.0	5.1-7.3	---	---
		35-80	0.0-2.0	5.1-7.8	0-15	---
D30A:						
Seelyeville, surface drained-----	45	0-10	140-200	5.1-7.3	---	---
		10-80	140-200	5.1-7.3	---	---
Markey, surface drained-----	45	0-36	110-170	4.5-7.3	---	---
		36-42	2.0-13	5.6-7.3	---	---
		42-80	1.0-3.0	5.6-7.3	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D30A: Mineral soil, surface drained-----	10	0-14 14-34 34-80	10-25 2.0-10 1.0-5.0	5.6-7.3 5.1-6.5 5.6-7.3	--- --- ---	--- --- ---
D31A: Urban land-----	70	---	---	---	---	---
Duelm-----	20	0-16 16-30 30-80	5.0-18 0.0-4.0 0.0-5.0	5.6-7.3 5.1-7.3 5.6-7.8	--- --- 0-15	--- --- ---
Hubbard-----	5	0-18 18-23 23-80	6.0-16 1.0-4.0 0.0-4.0	5.1-7.3 5.1-7.3 5.6-7.8	--- --- 0-15	--- --- ---
Isan-----	5	0-14 14-34 34-80	10-25 2.0-10 1.0-5.0	5.6-7.3 5.1-6.5 5.6-7.3	--- --- ---	--- --- ---
D33B: Urban land-----	70	---	---	---	---	---
Dorset-----	20	0-12 12-20 20-27 27-60	10-23 7.0-17 3.0-8.0 0.0-5.0	5.6-7.3 5.6-7.3 6.6-8.4 7.4-8.4	--- --- 0-30 5-15	--- --- --- ---
Verndale, acid substratum-----	5	0-10 10-19 19-28 28-80	7.0-15 3.0-12 2.0-4.0 0.0-3.0	5.1-7.3 5.1-7.3 5.1-7.3 5.1-7.3	--- --- --- ---	--- --- --- ---
Hubbard-----	5	0-20 20-32 32-80	6.0-16 1.0-4.0 0.0-4.0	5.1-7.3 5.1-7.3 5.6-7.8	--- --- 0-15	--- --- ---
D33C: Urban land-----	70	---	---	---	---	---
Dorset-----	20	0-11 11-19 19-32 32-80	10-23 7.0-17 3.0-8.0 0.0-5.0	5.6-7.3 5.6-7.3 6.6-8.4 7.4-8.4	--- --- 0-30 5-15	--- --- --- ---
Verndale, acid substratum-----	5	0-10 10-19 19-28 28-80	7.0-15 3.0-12 2.0-4.0 0.0-3.0	5.1-7.3 5.1-7.3 5.1-7.3 5.1-7.3	--- --- --- ---	--- --- --- ---
Hubbard-----	5	0-12 12-33 33-80	6.0-16 1.0-4.0 0.0-4.0	5.1-7.3 5.1-7.3 5.6-7.8	--- --- 0-15	--- --- ---
D34B: Urban land-----	75	---	---	---	---	---
Hubbard-----	20	0-18 18-23 23-80	6.0-16 1.0-4.0 0.0-4.0	5.1-7.3 5.1-7.3 5.6-7.8	--- --- 0-15	--- --- ---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D34B:						
Mosford-----	5	0-13	7.0-9.0	5.1-7.3	---	---
		13-16	4.0-22	5.1-7.3	---	---
		16-35	1.0-3.0	5.1-7.3	---	---
		35-80	0.0-2.0	5.1-7.8	0-15	---
D35A:						
Elkriver, occasionally flooded	70	0-10	6.0-19	5.1-7.3	---	---
		10-26	6.0-19	5.1-7.3	---	---
		26-32	4.0-15	5.6-7.8	0-8	---
		32-80	0.0-6.0	5.6-7.8	0-8	---
Fordum, occasionally flooded-----	20	0-7	10-35	5.1-7.3	---	---
		7-28	3.0-20	5.1-7.3	---	---
		28-80	2.0-6.0	5.6-7.3	---	---
Udipsamments-----	5	---	---	---	---	---
Winterfield, occasionally flooded	5	0-8	2.0-15	5.6-7.3	---	---
		8-20	1.0-10	5.6-7.3	---	---
		20-80	1.0-5.0	5.6-7.3	---	---
D37F:						
Dorset, bedrock substratum-----	70	0-12	10-23	5.6-7.3	---	---
		12-20	7.0-17	5.6-7.3	---	---
		20-27	3.0-8.0	6.6-8.4	0-30	---
		27-60	0.0-5.0	7.4-8.4	5-15	---
		60-80	---	---	---	---
Rock outcrop-----	20	---	---	---	---	---
Hubbard, bedrock substratum-----	10	0-18	6.0-16	5.1-7.3	---	---
		18-23	1.0-4.0	5.1-7.3	---	---
		23-60	0.0-4.0	5.6-7.8	0-15	---
		60-80	---	---	---	---
D40A:						
Kratka, thick solum--	80	0-10	3.0-12	5.6-7.3	---	---
		10-30	1.0-8.0	5.6-7.3	---	---
		30-60	4.0-21	6.1-7.3	0-5	0-1
Duelm-----	10	0-16	5.0-18	5.6-7.3	---	---
		16-30	0.0-4.0	5.1-7.3	---	---
		30-80	0.0-5.0	5.6-7.8	0-15	---
Foldahl, MAP >25----	10	0-16	2.0-13	5.6-6.6	---	---
		16-31	1.0-5.0	5.6-6.6	---	---
		31-40	7.0-21	6.1-7.3	---	---
		40-60	7.0-21	7.4-8.4	10-20	0-1
D41C:						
Urban land-----	75	---	---	---	---	---
Waukon-----	20	0-8	6.0-20	6.1-7.3	---	---
		8-43	7.0-21	6.1-8.4	0-5	---
		43-80	7.0-18	7.4-8.4	5-30	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
D41C:						
Braham-----	5	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-42	7.0-21	5.1-7.3	---	---
		42-60	7.0-21	7.4-8.4	10-20	0-1
D43A:						
Gonvick, terrace----	85	0-12	8.0-24	6.1-7.3	---	---
		12-30	12-24	6.6-7.3	0-5	---
		30-60	8.0-18	7.4-8.4	10-25	0-1
Braham-----	15	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-42	7.0-21	5.1-7.3	---	---
		42-60	7.0-21	7.4-8.4	10-20	0-1
GP. Pits, gravel- Udipsamments						
L2B:						
Malardi-----	65	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Hawick-----	25	0-7	1.0-10	6.1-7.8	0-10	---
		7-11	1.0-5.0	6.1-7.8	0-10	---
		11-80	1.0-5.0	7.4-8.4	5-15	---
Rasset-----	5	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Eden Prairie-----	5	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
L2C:						
Malardi-----	60	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Hawick-----	25	0-7	1.0-10	6.1-7.8	0-10	---
		7-11	1.0-5.0	6.1-7.8	0-10	---
		11-80	1.0-5.0	7.4-8.4	5-15	---
Tomall-----	10	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
Crowfork-----	5	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L2D:</b>						
Malardi-----	55	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Hawick-----	30	0-7	1.0-10	6.1-7.8	0-10	---
		7-11	1.0-5.0	6.1-7.8	0-10	---
		11-80	1.0-5.0	7.4-8.4	5-15	---
Tomall-----	10	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
Crowfork-----	5	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
<b>L2E:</b>						
Malardi-----	55	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Hawick-----	30	0-7	1.0-10	6.1-7.8	0-10	---
		7-11	1.0-5.0	6.1-7.8	0-10	---
		11-80	1.0-5.0	7.4-8.4	5-15	---
Tomall-----	15	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
<b>L3A:</b>						
Rasset-----	90	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Malardi-----	8	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Eden Prairie-----	2	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
<b>L3B:</b>						
Rasset-----	80	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Malardi-----	15	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L3B:						
Eden Prairie-----	5	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
L3C:						
Rasset-----	75	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Malardi-----	10	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Tomall-----	10	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
Eden Prairie-----	5	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
L4B:						
Crowfork-----	90	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
Eden Prairie-----	10	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
L4C:						
Crowfork-----	90	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
Eden Prairie-----	10	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
L4D:						
Crowfork-----	85	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
Eden Prairie-----	15	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L6A:						
Biscay-----	85	0-20	20-35	6.1-7.8	0-15	---
		20-28	12-25	6.6-7.8	0-15	---
		28-36	5.0-20	6.6-7.8	0-15	---
		36-60	1.0-5.0	7.4-8.4	5-30	---
Biscay, depressional	10	0-23	20-35	6.1-7.8	0-15	---
		23-28	12-25	6.6-7.8	0-15	---
		28-36	5.0-20	6.6-7.8	0-15	---
		36-60	1.0-5.0	7.4-8.4	5-30	---
Mayer-----	5	0-18	15-31	7.4-8.4	5-30	---
		18-33	13-27	7.4-8.4	5-30	---
		33-80	1.0-10	7.4-8.4	5-30	---
L7A:						
Biscay, depressional	80	0-23	20-35	6.1-7.8	0-15	---
		23-28	12-25	6.6-7.8	0-15	---
		28-36	5.0-20	6.6-7.8	0-15	---
		36-60	1.0-5.0	7.4-8.4	5-30	---
Biscay-----	15	0-20	20-35	6.1-7.8	0-15	---
		20-28	12-25	6.6-7.8	0-15	---
		28-36	5.0-20	6.6-7.8	0-15	---
		36-60	1.0-5.0	7.4-8.4	5-30	---
Mayer-----	5	0-18	15-31	7.4-8.4	5-30	---
		18-33	13-27	7.4-8.4	5-30	---
		33-80	1.0-10	7.4-8.4	5-30	---
L8A:						
Darfur-----	95	0-16	10-20	6.1-7.3	---	---
		16-32	5.0-15	6.6-7.3	---	---
		32-80	1.0-10	6.6-7.4	0-15	---
Dassel-----	5	0-14	10-40	5.6-7.3	---	---
		14-31	3.0-10	5.6-7.3	---	---
		31-80	1.0-5.0	6.1-7.8	0-5	---
L9A:						
Minnetonka-----	90	0-13	24-43	5.6-7.3	---	---
		13-35	21-47	5.6-7.3	---	---
		35-60	15-32	6.6-7.8	5-20	---
Depressional soil----	10	0-16	24-43	5.6-7.3	---	---
		16-42	21-47	5.6-7.3	---	---
		42-60	15-32	6.6-7.8	5-20	---
L10B:						
Kasota-----	80	0-10	22-40	5.6-7.3	---	---
		10-28	21-47	5.6-6.5	---	---
		28-32	1.0-8.0	6.1-7.3	---	---
		32-60	1.0-4.0	7.4-8.4	5-25	---
Eden Prairie-----	10	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
Wet soil in swales---	10	0-13	24-43	5.6-7.3	---	---
		13-35	21-47	5.6-7.3	---	---
		35-60	15-32	6.6-7.8	5-20	---
		60-80	1.0-5.0	7.4-8.4	5-30	---



Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L11B:</b>						
Grays-----	90	0-7	15-24	5.6-6.5	---	---
		7-25	15-22	5.6-7.3	---	---
		25-60	3.0-12	7.4-8.4	10-25	---
Kasota-----	5	0-10	22-40	5.6-7.3	---	---
		10-28	21-47	5.6-6.5	---	---
		28-32	1.0-8.0	6.1-7.3	---	---
		32-60	1.0-4.0	7.4-8.4	5-25	---
Crowfork-----	5	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
<b>L12A:</b>						
Muskego, frequently flooded-----	30	0-9	140-180	5.6-7.3	---	---
		9-36	150-190	5.6-7.3	---	---
		36-60	10-45	7.4-8.4	10-80	---
Blue Earth, frequently flooded--	30	0-50	30-70	7.4-8.4	5-20	---
		50-60	30-70	7.4-8.4	5-40	---
Houghton, frequently flooded-----	30	0-80	100-200	4.5-7.3	---	---
Oshawa, frequently flooded-----	10	0-12	19-41	7.4-7.8	5-15	---
		12-60	12-36	7.4-7.8	5-15	---
<b>L13A:</b>						
Klossner, drained----	80	0-26	50-150	5.6-7.4	0-5	---
		26-36	35-65	6.1-7.4	0-5	---
		36-48	20-40	6.1-7.4	0-5	---
		48-80	5.0-25	6.1-8.4	0-20	0-1
Mineral soil, drained	15	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
Houghton, drained----	5	0-10	100-200	4.5-7.3	---	---
		10-80	100-200	4.5-7.3	---	---
<b>L14A:</b>						
Houghton, drained----	80	0-10	100-200	4.5-7.3	---	---
		10-80	100-200	4.5-7.3	---	---
Klossner, drained----	10	0-26	50-150	5.6-7.4	0-5	---
		26-36	35-65	6.1-7.4	0-5	---
		36-48	20-40	6.1-7.4	0-5	---
		48-80	5.0-25	6.1-8.4	0-20	0-1
Mineral soil, drained	10	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L15A:</b>						
Klossner, ponded-----	30	0-26	50-150	5.6-7.4	0-5	---
		26-33	35-65	6.1-7.4	0-5	---
		33-40	20-40	6.1-7.4	0-5	---
		40-80	5.0-25	6.1-8.4	0-20	0-1
Okoboji, ponded-----	30	0-10	35-50	6.1-7.8	0-15	---
		10-52	25-45	6.6-7.8	0-15	---
		52-60	18-28	6.6-7.8	0-30	---
Glencoe, ponded-----	30	0-42	20-40	6.1-7.8	0-5	---
		42-50	15-30	6.6-7.8	0-5	---
		50-60	10-20	7.4-8.4	10-20	0-1
Houghton, ponded-----	10	0-80	100-200	4.5-7.3	---	---
<b>L16A:</b>						
Muskego, ponded-----	30	0-9	140-180	5.6-7.3	---	---
		9-36	150-190	5.6-7.3	---	---
		36-60	10-45	7.4-8.4	10-80	---
Blue Earth, ponded---	30	0-50	30-70	7.4-8.4	5-20	---
		50-60	30-70	7.4-8.4	5-40	---
Houghton, ponded-----	30	0-80	100-200	4.5-7.3	---	---
Klossner, ponded-----	10	0-26	50-150	5.6-7.4	0-5	---
		26-33	35-65	6.1-7.4	0-5	---
		33-40	20-40	6.1-7.4	0-5	---
		40-80	5.0-25	6.1-8.4	0-20	0-1
<b>L17B:</b>						
Angus-----	50	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-40	8.0-18	6.1-7.8	0-20	---
		40-80	10-20	7.4-8.4	10-20	0-1
Malardi-----	30	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Moon-----	10	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Cordova-----	10	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
<b>L18A:</b>						
Shields-----	85	0-8	18-28	5.6-6.5	---	---
		8-41	21-34	5.6-6.5	---	---
		41-80	14-26	7.4-8.4	5-20	---
Lerdal-----	10	0-9	18-24	5.6-6.5	---	---
		9-42	19-30	4.5-6.0	---	---
		42-60	10-20	7.4-8.4	10-25	0-1
Mazaska-----	5	0-15	22-34	6.1-7.3	---	---
		15-42	19-29	4.5-6.5	---	---
		42-80	10-20	7.4-8.4	15-25	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L19B:						
Moon-----	85	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Finchford-----	15	0-18	5.0-15	6.1-7.3	---	---
		18-30	1.0-8.0	5.1-7.3	---	---
		30-60	1.0-5.0	5.1-7.3	---	---
L20B:						
Fedji, silty substratum-----	85	0-10	3.0-12	5.6-6.5	---	---
		10-30	1.0-8.0	6.1-7.3	---	---
		30-39	7.0-22	6.1-7.3	---	---
		39-60	4.0-19	7.4-8.4	8-25	---
Finchford-----	15	0-18	5.0-15	6.1-7.3	---	---
		18-30	1.0-8.0	5.1-7.3	---	---
		30-60	1.0-5.0	5.1-7.3	---	---
L21A:						
Canisteo-----	80	0-17	19-37	7.4-8.4	5-15	---
		17-36	6.0-23	7.4-8.4	15-25	---
		36-80	10-20	7.4-8.4	10-20	0-1
Cordova-----	15	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
Glencoe-----	5	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
L22C2:						
Lester, eroded-----	70	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Angus-----	15	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-40	8.0-18	6.1-7.8	0-20	---
		40-80	10-20	7.4-8.4	10-20	0-1
Terril-----	12	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	3	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
L22D2:						
Lester, eroded-----	80	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L22D2:						
Terril-----	10	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	5	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-23	20-25	6.1-7.3	---	---
		23-38	20-25	6.1-7.3	---	---
		38-50	15-25	6.1-7.3	---	---
		50-80	10-20	7.4-8.4	10-20	0-1
L22E:						
Lester, morainic----	75	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Terril-----	15	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	5	0-22	15-30	5.6-7.3	---	---
		22-41	15-30	5.6-7.3	---	---
		41-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
L22F:						
Lester, morainic----	75	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Terril-----	10	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	10	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	5	0-22	15-30	5.6-7.3	---	---
		22-41	15-30	5.6-7.3	---	---
		41-80	10-20	7.4-8.4	10-20	0-1
L23A:						
Cordova-----	85	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
Glencoe-----	10	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L23A:</b>						
Nessel-----	5	0-6	10-24	5.6-7.3	---	---
		6-38	10-23	5.1-7.3	---	---
		38-80	10-20	7.4-8.4	10-20	0-1
<b>L24A:</b>						
Glencoe, depressional	90	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
<b>Cordova-----</b>	10	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
<b>L25A:</b>						
Le Sueur-----	80	0-17	12-24	5.6-7.3	---	---
		17-36	11-25	5.1-7.3	---	---
		36-46	10-20	7.4-8.4	15-25	---
		46-80	10-20	7.4-8.4	10-20	0-1
<b>Cordova-----</b>	15	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
<b>Angus-----</b>	5	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-40	8.0-18	6.1-7.8	0-20	---
		40-80	10-20	7.4-8.4	10-20	0-1
<b>L26A:</b>						
Shorewood-----	85	0-17	30-45	5.6-7.3	---	---
		17-39	25-45	5.1-7.3	---	---
		39-60	10-20	7.4-8.4	10-20	0-1
<b>Minnetonka-----</b>	10	0-13	24-43	5.6-7.3	---	---
		13-35	21-47	5.6-7.3	---	---
		35-60	15-32	6.6-7.8	5-20	---
<b>Good Thunder-----</b>	5	0-15	30-45	5.6-7.3	---	---
		15-32	25-45	5.1-7.3	---	---
		32-80	15-25	7.4-8.4	10-20	---
<b>L26B:</b>						
Shorewood-----	90	0-17	30-45	5.6-7.3	---	---
		17-39	25-45	5.1-7.3	---	---
		39-60	10-20	7.4-8.4	10-20	0-1
<b>Good Thunder-----</b>	5	0-15	30-45	5.6-7.3	---	---
		15-32	25-45	5.1-7.3	---	---
		32-80	15-25	7.4-8.4	10-20	---
<b>Minnetonka-----</b>	5	0-13	24-43	5.6-7.3	---	---
		13-35	21-47	5.6-7.3	---	---
		35-60	15-32	6.6-7.8	5-20	---
<b>L26C2:</b>						
Shorewood, eroded----	95	0-17	30-45	5.6-7.3	---	---
		17-39	25-45	5.1-7.3	---	---
		39-60	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L26C2:						
Minnetonka-----	5	0-13	24-43	5.6-7.3	---	---
		13-35	21-47	5.6-7.3	---	---
		35-60	15-32	6.6-7.8	5-20	---
L27A:						
Suckercreek, frequently flooded--	85	0-22	10-20	7.4-8.4	5-20	---
		22-80	1.0-10	7.4-8.4	5-25	---
Suckercreek, occasionally flooded	10	0-12	10-20	7.4-8.4	5-20	---
		12-80	1.0-10	7.4-8.4	5-25	---
Hanlon, occasionally flooded-----	5	0-40	15-20	6.1-7.3	---	---
		40-63	10-15	6.1-7.3	---	---
		63-70	5.0-10	5.6-7.3	---	---
		70-80	5.0-10	5.6-7.8	0-15	---
L28A:						
Suckercreek, occasionally flooded	80	0-12	10-20	7.4-8.4	5-20	---
		12-80	1.0-10	7.4-8.4	5-25	---
Suckercreek, frequently flooded--	10	0-22	10-20	7.4-8.4	5-20	---
		22-80	1.0-10	7.4-8.4	5-25	---
Hanlon, occasionally flooded-----	10	0-40	15-20	6.1-7.3	---	---
		40-63	10-15	6.1-7.3	---	---
		63-70	5.0-10	5.6-7.3	---	---
		70-80	5.0-10	5.6-7.8	0-15	---
L29A:						
Hanlon, occasionally flooded-----	80	0-40	15-20	6.1-7.3	---	---
		40-63	10-15	6.1-7.3	---	---
		63-70	5.0-10	5.6-7.3	---	---
		70-80	5.0-10	5.6-7.8	0-15	---
Suckercreek, occasionally flooded	10	0-12	10-20	7.4-8.4	5-20	---
		12-80	1.0-10	7.4-8.4	5-25	---
Suckercreek, frequently flooded--	10	0-22	10-20	7.4-8.4	5-20	---
		22-80	1.0-10	7.4-8.4	5-25	---
L30A:						
Medo, surface drained	65	0-27	40-100	6.1-7.8	0-5	---
		27-35	20-55	6.1-7.8	0-5	---
		35-39	8.0-19	6.1-7.8	0-5	---
		39-80	1.0-9.0	6.1-8.4	0-15	---
Medo, drained-----	20	0-27	40-100	6.1-7.8	0-5	---
		27-35	20-55	6.1-7.8	0-5	---
		35-39	8.0-19	6.1-7.8	0-5	---
		39-80	1.0-9.0	6.1-8.4	0-15	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L30A:</b>						
Mineral soil, drained	15	0-23	10-40	5.6-7.3	---	---
		23-31	3.0-10	5.6-7.3	---	---
		31-60	1.0-5.0	6.1-7.8	0-5	---
<b>L31A:</b>						
Medo, ponded-----	30	0-20	40-100	6.1-7.8	0-5	---
		20-34	20-55	6.1-7.8	0-5	---
		34-60	1.0-9.0	6.1-8.4	0-15	---
Dassel, ponded-----	30	0-23	10-40	5.6-7.3	---	---
		23-31	3.0-10	5.6-7.3	---	---
		31-60	1.0-5.0	6.1-7.8	0-5	---
Biscay, ponded-----	30	0-24	20-35	6.1-7.8	0-10	---
		24-29	12-25	6.6-7.8	0-15	---
		29-60	1.0-5.0	7.4-8.4	5-30	---
Houghton, ponded-----	5	0-80	100-200	4.5-7.3	---	---
Muskego, ponded-----	5	0-9	140-180	5.6-7.3	---	---
		9-36	150-190	5.6-7.3	---	---
		36-60	10-45	7.4-8.4	10-80	---
<b>L32D:</b>						
Hawick-----	75	0-11	10-15	6.1-7.8	0-10	---
		11-15	1.0-5.0	6.1-7.8	0-10	---
		15-80	1.0-5.0	7.4-8.4	5-15	---
Crowfork-----	15	0-11	3.0-10	5.6-7.3	---	---
		11-19	1.0-7.0	5.1-6.5	---	---
		19-54	1.0-7.0	5.6-7.3	---	---
		54-60	1.0-4.0	6.1-7.8	0-15	---
Tomall-----	10	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
<b>L32F:</b>						
Hawick-----	75	0-11	10-15	6.1-7.8	0-10	---
		11-15	1.0-5.0	6.1-7.8	0-10	---
		15-80	1.0-5.0	7.4-8.4	5-15	---
Crowfork-----	15	0-11	3.0-10	5.6-7.3	---	---
		11-19	1.0-7.0	5.1-6.5	---	---
		19-54	1.0-7.0	5.6-7.3	---	---
		54-60	1.0-4.0	6.1-7.8	0-15	---
Tomall-----	10	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
<b>L35A:</b>						
Lerdal-----	80	0-13	14-22	5.6-6.5	---	---
		13-47	19-30	4.5-7.4	---	---
		47-60	10-20	7.4-8.4	10-25	0-1
Mazaska-----	10	0-15	22-34	6.1-7.3	---	---
		15-42	19-29	4.5-6.5	---	---
		42-80	10-20	7.4-8.4	15-25	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L35A:						
Cordova-----	5	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
Le Sueur-----	5	0-17	12-24	5.6-7.3	---	---
		17-36	11-25	5.1-7.3	---	---
		36-46	10-20	7.4-8.4	15-25	---
		46-80	10-20	7.4-8.4	10-20	0-1
L36A:						
Hamel, overwash-----	50	0-13	15-30	5.6-7.3	---	---
		13-29	15-30	5.6-7.3	---	---
		29-50	15-30	5.6-7.3	---	---
		50-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	43	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
Terril-----	5	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Glencoe-----	2	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
L37B:						
Angus, morainic-----	80	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-40	8.0-18	6.1-7.8	0-20	---
		40-80	10-20	7.4-8.4	10-20	0-1
Angus, eroded-----	10	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-58	10-20	7.4-8.4	5-25	0-1
		58-80	10-20	7.4-8.4	10-20	0-1
Le Sueur-----	5	0-17	12-24	5.6-7.3	---	---
		17-36	11-25	5.1-7.3	---	---
		36-46	10-20	7.4-8.4	15-25	---
		46-80	10-20	7.4-8.4	10-20	0-1
Cordova-----	5	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
L38A:						
Rushriver, occasionally flooded	75	0-46	3.0-13	7.4-8.4	5-20	---
		46-80	3.0-13	7.4-8.4	5-20	---
Oshawa, frequently flooded-----	15	0-12	19-41	7.4-7.8	5-15	---
		12-60	12-36	7.4-7.8	5-15	---
Minneiska, occasionally flooded	5	0-10	5.0-20	7.4-8.4	10-20	---
		10-60	5.0-15	7.4-8.4	5-20	---



Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L38A: Algansee, occasionally flooded	5	0-6 6-60	3.0-10 1.0-4.0	4.5-7.8 4.5-7.8	0-5 0-10	--- ---
L39A: Minneiska, occasionally flooded	70	0-10 10-60	5.0-20 5.0-15	7.4-8.4 7.4-8.4	10-20 5-20	--- ---
Rushriver, occasionally flooded	15	0-46 46-80	3.0-13 3.0-13	7.4-8.4 7.4-8.4	5-20 5-20	--- ---
Oshawa, frequently flooded-----	10	0-12 12-60	19-41 12-36	7.4-7.8 7.4-7.8	5-15 5-15	--- ---
Algansee, occasionally flooded	5	0-6 6-60	3.0-10 1.0-4.0	4.5-7.8 4.5-7.8	0-5 0-10	--- ---
L40B: Angus-----	45	0-8 8-35 35-40 40-80	10-24 10-23 8.0-18 10-20	5.6-7.3 5.1-7.3 6.1-7.8 7.4-8.4	--- --- 0-20 10-20	--- --- --- 0-1
Kilkenny-----	40	0-11 11-35 35-80	20-30 25-35 10-20	5.6-7.3 5.1-7.3 7.4-8.4	--- --- 10-20	--- --- 0-1
Lerdal-----	10	0-8 8-12 12-41 41-80	18-24 18-24 19-30 10-20	5.6-6.5 5.6-6.5 4.5-6.0 7.4-8.4	--- --- --- 15-25	--- --- --- 0-1
Mazaska-----	5	0-15 15-42 42-80	22-34 19-29 10-20	6.1-7.3 4.5-6.5 7.4-8.4	--- --- 15-25	--- --- 0-1
L41C2: Lester, eroded-----	45	0-7 7-38 38-60 60-80	10-24 10-23 10-20 10-20	5.6-7.3 5.1-7.3 7.4-8.4 7.4-8.4	--- --- 15-25 10-20	--- --- 0-1 0-1
Kilkenny, eroded-----	40	0-9 9-53 53-80	20-30 25-35 10-20	5.6-7.3 5.1-7.3 7.4-8.4	--- --- 10-20	--- --- 0-1
Terril-----	10	0-27 27-40 40-63 63-80	20-25 20-25 15-25 10-20	6.1-7.3 6.1-7.3 6.1-7.3 7.4-8.4	--- --- --- 10-20	--- --- --- 0-1
Derrynane-----	5	0-19 19-39 39-65 65-80	25-40 25-45 20-30 10-20	6.1-7.3 6.1-7.3 6.1-7.3 7.4-8.4	--- --- --- 10-20	--- --- --- 0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L41D2:						
Lester, eroded-----	45	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Kilkenny, eroded----	35	0-9	20-30	5.6-7.3	---	---
		9-53	25-35	5.1-7.3	---	---
		53-80	10-20	7.4-8.4	10-20	0-1
Terril-----	10	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Derrynane-----	5	0-19	25-40	6.1-7.3	---	---
		19-39	25-45	6.1-7.3	---	---
		39-65	20-30	6.1-7.3	---	---
		65-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-23	20-25	6.1-7.3	---	---
		23-38	20-25	6.1-7.3	---	---
		38-50	15-25	6.1-7.3	---	---
		50-80	10-20	7.4-8.4	10-20	0-1
L41E:						
Lester-----	45	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Kilkenny-----	40	0-7	20-30	5.6-7.3	---	---
		7-31	25-35	5.1-7.3	---	---
		31-80	10-20	7.4-8.4	10-20	0-1
Terril-----	5	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1
Derrynane-----	5	0-20	25-40	6.1-7.3	---	---
		20-40	25-45	6.1-7.3	---	---
		40-54	20-30	6.1-7.3	---	---
		54-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
L41F:						
Lester-----	45	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Kilkenny-----	35	0-7	20-30	5.6-7.3	---	---
		7-31	25-35	5.1-7.3	---	---
		31-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	10	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L41F:						
Terril-----	5	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1
Derrynane-----	5	0-20	25-40	6.1-7.3	---	---
		20-40	25-45	6.1-7.3	---	---
		40-54	20-30	6.1-7.3	---	---
		54-80	10-20	7.4-8.4	10-20	0-1
L42B:						
Kingsley-----	70	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Gotham-----	25	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
Grays-----	5	0-7	15-24	5.6-6.5	---	---
		7-25	15-22	5.6-7.3	---	---
		25-60	3.0-12	7.4-8.4	10-25	---
L42C:						
Kingsley-----	70	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Gotham-----	25	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
Grays-----	5	0-7	15-24	5.6-6.5	---	---
		7-25	15-22	5.6-7.3	---	---
		25-60	3.0-12	7.4-8.4	10-25	---
L42D:						
Kingsley-----	70	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Gotham-----	25	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
Grays-----	5	0-7	15-24	5.6-6.5	---	---
		7-25	15-22	5.6-7.3	---	---
		25-60	3.0-12	7.4-8.4	10-25	---
L42E:						
Kingsley-----	70	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L42E:						
Gotham-----	25	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
Grays-----	5	0-7	15-24	5.6-6.5	---	---
		7-25	15-22	5.6-7.3	---	---
		25-60	3.0-12	7.4-8.4	10-25	---
L42F:						
Kingsley-----	70	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Gotham-----	25	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
Grays-----	5	0-7	15-24	5.6-6.5	---	---
		7-25	15-22	5.6-7.3	---	---
		25-60	3.0-12	7.4-8.4	10-25	---
L43A:						
Brouillett, occasionally flooded	80	0-14	10-25	6.1-7.8	0-10	---
		14-36	15-30	6.1-7.8	0-10	---
		36-44	12-28	6.1-7.8	0-10	---
		44-60	5.0-15	6.1-8.4	0-10	---
Minneiska, occasionally flooded	10	0-10	5.0-20	7.4-8.4	10-20	---
		10-60	5.0-15	7.4-8.4	5-20	---
Rushriver, occasionally flooded	10	0-46	3.0-13	7.4-8.4	5-20	---
		46-80	3.0-13	7.4-8.4	5-20	---
L44A:						
Nessel-----	85	0-6	10-24	5.6-7.3	---	---
		6-38	10-23	5.1-7.3	---	---
		38-80	10-20	7.4-8.4	10-20	0-1
Cordova-----	10	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1
Angus-----	5	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-40	8.0-18	6.1-7.8	0-20	---
		40-80	10-20	7.4-8.4	10-20	0-1
L45A:						
Dundas-----	65	0-9	9.0-22	5.6-7.3	---	---
		9-15	10-24	5.6-7.3	---	---
		15-40	11-26	5.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
Cordova-----	25	0-13	15-28	6.1-7.3	---	---
		13-33	15-25	5.1-6.5	---	---
		33-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L45A:						
Nessel-----	5	0-6	10-24	5.6-7.3	---	---
		6-38	10-23	5.1-7.3	---	---
		38-80	10-20	7.4-8.4	10-20	0-1
Glencoe-----	5	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
L46A:						
Tomall-----	80	0-33	17-32	6.1-7.3	---	---
		33-42	11-21	6.1-7.3	---	---
		42-47	1.0-5.0	6.1-7.3	---	---
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
Rasset-----	10	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Malardi-----	10	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
L47A:						
Eden Prairie-----	85	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
Malardi-----	10	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Rasset-----	5	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
L47B:						
Eden Prairie-----	80	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
Malardi-----	10	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Rasset-----	10	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
L47C:						
Eden Prairie-----	70	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L47C:						
Malardi-----	10	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Rasset-----	10	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Hawick-----	10	0-7	1.0-10	6.1-7.8	0-10	---
		7-11	1.0-5.0	6.1-7.8	0-10	---
		11-80	1.0-5.0	7.4-8.4	5-15	---
L49A:						
Klossner, surface drained-----	65	0-26	50-150	5.6-7.4	0-5	---
		26-33	35-65	6.1-7.4	0-5	---
		33-40	20-40	6.1-7.4	0-5	---
		40-80	5.0-25	6.1-8.4	0-20	0-1
Klossner, drained----	20	0-26	50-150	5.6-7.4	0-5	---
		26-36	35-65	6.1-7.4	0-5	---
		36-48	20-40	6.1-7.4	0-5	---
		48-80	5.0-25	6.1-8.4	0-20	0-1
Mineral soil, drained	15	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
L50A:						
Houghton, surface drained-----	40	0-80	100-200	4.5-7.3	---	---
Muskego, surface drained-----	40	0-9	140-180	5.6-7.3	---	---
		9-36	150-190	5.6-7.3	---	---
		36-60	10-45	7.4-8.4	10-80	---
Klossner, drained----	10	0-26	50-150	5.6-7.4	0-5	---
		26-36	35-65	6.1-7.4	0-5	---
		36-48	20-40	6.1-7.4	0-5	---
		48-80	5.0-25	6.1-8.4	0-20	0-1
Mineral soil, drained	10	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
L52C:						
Urban land-----	75	---	---	---	---	---
Lester-----	20	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Kingsley-----	5	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L52E:						
Urban land-----	75	---	---	---	---	---
Lester-----	20	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Kingsley-----	5	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
L53B:						
Urban land-----	70	---	---	---	---	---
Moon-----	20	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Lester-----	10	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
L54A:						
Urban land-----	70	---	---	---	---	---
Dundas-----	20	0-9	9.0-22	5.6-7.3	---	---
		9-15	10-24	5.6-7.3	---	---
		15-40	11-26	5.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
Nessel-----	10	0-6	10-24	5.6-7.3	---	---
		6-38	10-23	5.1-7.3	---	---
		38-80	10-20	7.4-8.4	10-20	0-1
L55B:						
Urban land-----	70	---	---	---	---	---
Malardi-----	20	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Rasset-----	5	0-15	5.0-15	5.1-7.3	---	---
		15-28	7.0-13	5.1-7.3	---	---
		28-36	2.0-7.0	5.1-7.3	---	---
		36-80	1.0-3.0	5.1-7.8	0-20	---
Eden Prairie-----	5	0-10	6.0-19	5.6-6.5	---	---
		10-16	4.0-13	5.6-6.5	---	---
		16-26	0.0-7.0	5.6-7.3	---	---
		26-80	0.0-4.0	5.6-7.8	0-30	---
L55C:						
Urban land-----	70	---	---	---	---	---
Malardi-----	20	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L55C:						
Hawick-----	5	0-7	1.0-10	6.1-7.8	0-10	---
		7-11	1.0-5.0	6.1-7.8	0-10	---
		11-80	1.0-5.0	7.4-8.4	5-15	---
Crowfork-----	5	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
L56A:						
Muskego, frequently flooded-----	45	0-9	140-180	5.6-7.3	---	---
		9-36	150-190	5.6-7.3	---	---
		36-60	10-45	7.4-8.4	10-80	---
Klossner, frequently flooded-----	45	0-26	50-150	5.6-7.4	0-5	---
		26-33	35-65	6.1-7.4	0-5	---
		33-40	20-40	6.1-7.4	0-5	---
		40-80	5.0-25	6.1-8.4	0-20	0-1
Suckercreek, frequently flooded--	10	0-22	10-20	7.4-8.4	5-20	---
		22-80	1.0-10	7.4-8.4	5-25	---
L58B:						
Koronis-----	60	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Forestcity-----	10	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
Gotham-----	5	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
L58C2:						
Koronis, eroded-----	55	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley, eroded-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Forestcity-----	15	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1



Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L58C2:						
Gotham-----	5	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
L58D2:						
Koronis, eroded-----	55	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley, eroded-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Forestcity-----	15	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
Gotham-----	5	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
L58E:						
Koronis-----	55	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Forestcity-----	15	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
Gotham-----	5	0-9	2.0-6.0	5.6-7.3	---	---
		9-18	2.0-4.0	5.1-7.3	---	---
		18-40	2.0-6.0	5.1-7.3	---	---
		40-80	1.0-3.0	5.1-7.3	---	---
L59A:						
Forestcity-----	70	0-22	10-25	6.1-7.3	---	---
		22-43	15-25	6.1-7.3	---	---
		43-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
Lundlake, depressional-----	25	0-20	20-38	6.6-7.3	---	---
		20-46	14-25	6.6-7.3	---	---
		46-54	10-18	6.6-7.8	0-10	---
		54-60	5.0-10	7.4-7.8	10-20	0-1
Marcellon-----	5	0-13	8.0-30	5.6-7.3	---	---
		13-32	4.0-20	5.6-7.3	---	---
		32-60	2.0-15	7.4-7.8	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L60B:						
Angus-----	65	0-8	10-24	5.6-7.3	---	---
		8-35	10-23	5.1-7.3	---	---
		35-40	8.0-18	6.1-7.8	0-20	---
		40-80	10-20	7.4-8.4	10-20	0-1
Moon-----	30	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Hamel-----	5	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
L61C2:						
Lester, eroded-----	60	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Metea, eroded-----	25	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Terril-----	12	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	3	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
L61D2:						
Lester, eroded-----	55	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Metea, eroded-----	25	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Terril-----	12	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-23	20-25	6.1-7.3	---	---
		23-38	20-25	6.1-7.3	---	---
		38-50	15-25	6.1-7.3	---	---
		50-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	3	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L61E:</b>						
Lester-----	55	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Metea-----	25	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Terril-----	10	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	5	0-22	15-30	5.6-7.3	---	---
		22-41	15-30	5.6-7.3	---	---
		41-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
<b>L62B:</b>						
Koronis-----	55	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley-----	20	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Malardi-----	20	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Forestcity-----	5	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
<b>L62C2:</b>						
Koronis, eroded-----	40	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley, eroded-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Malardi, eroded-----	25	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Forestcity-----	10	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L62D2:						
Koronis, eroded-----	40	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley, eroded-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Malardi, eroded-----	25	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Forestcity-----	10	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
L62E:						
Koronis-----	40	0-10	5.0-20	5.6-7.3	---	---
		10-30	10-20	5.6-7.3	---	---
		30-60	5.0-15	7.4-8.4	5-20	---
Kingsley-----	25	0-7	5.0-14	5.6-6.5	---	---
		7-14	1.0-7.0	5.6-6.5	---	---
		14-34	2.0-12	5.1-7.3	---	---
		34-60	2.0-7.0	5.6-7.8	0-5	---
Malardi-----	25	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Forestcity-----	10	0-22	10-25	6.1-7.3	---	---
		22-36	15-25	6.1-7.3	---	---
		36-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
L64A:						
Tadkee-----	50	0-6	5.0-20	6.1-7.8	---	---
		6-34	1.0-10	6.1-7.8	---	---
		34-80	10-20	7.4-8.4	10-20	0-1
Tadkee, depressional	36	0-6	30-70	6.1-7.8	---	---
		6-27	1.0-10	6.1-7.8	---	---
		27-80	10-20	7.4-8.4	10-20	0-1
Better drained soil--	8	0-6	3.0-8.0	6.1-7.3	---	---
		6-25	2.0-6.0	5.6-7.3	---	---
		25-80	10-20	7.4-8.4	10-20	0-1
Granby-----	4	0-12	5.0-20	5.6-7.3	---	---
		12-24	1.0-10	5.6-7.8	---	---
		24-60	1.0-3.0	6.6-8.4	0-20	---
Less sandy soil-----	2	0-4	5.0-20	7.4-7.8	5-15	---
		4-20	10-20	7.4-8.4	10-20	0-1
		20-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
<b>L70C2:</b>						
Lester, eroded-----	60	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Malardi, eroded-----	25	0-10	6.0-19	5.6-7.3	---	---
		10-15	1.0-12	5.6-7.3	---	---
		15-29	0.0-6.0	5.6-7.3	---	---
		29-80	0.0-3.0	7.0-8.4	0-30	---
Terril-----	12	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	3	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
<b>L70D2:</b>						
Lester, eroded-----	55	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Malardi, eroded-----	25	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Terril-----	12	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-23	20-25	6.1-7.3	---	---
		23-38	20-25	6.1-7.3	---	---
		38-50	15-25	6.1-7.3	---	---
		50-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	3	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
<b>L70E:</b>						
Lester-----	55	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Malardi-----	25	0-9	6.0-19	5.6-7.3	---	---
		9-14	1.0-12	5.6-7.3	---	---
		14-21	0.0-6.0	5.6-7.3	---	---
		21-80	0.0-3.0	7.0-8.4	0-30	---
Terril-----	10	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L70E:						
Hamel-----	5	0-22	15-30	5.6-7.3	---	---
		22-41	15-30	5.6-7.3	---	---
		41-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	5	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
L71C:						
Metea-----	80	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
Lester-----	15	0-7	10-24	5.6-7.3	---	---
		7-38	10-23	5.1-7.3	---	---
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Moon-----	5	0-8	2.0-9.0	5.6-7.3	---	---
		8-24	1.0-5.0	5.6-7.3	---	---
		24-46	7.0-21	5.1-7.3	---	---
		46-60	7.0-21	7.4-8.4	10-20	0-1
L72A:						
Lundlake, depressional-----	90	0-20	20-38	6.6-7.3	---	---
		20-46	14-25	6.6-7.3	---	---
		46-54	10-18	6.6-7.8	0-10	---
		54-60	5.0-10	7.4-7.8	10-20	0-1
Forestcity-----	10	0-22	10-25	6.1-7.3	---	---
		22-43	15-25	6.1-7.3	---	---
		43-60	8.0-20	5.6-7.3	---	---
		60-80	5.0-12	7.4-7.8	10-20	0-1
L110E:						
Lester-----	50	0-5	10-24	5.6-7.3	---	---
		5-34	10-23	5.1-7.3	---	---
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	30	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
Cokato-----	10	0-16	15-25	5.6-7.3	---	---
		16-30	15-20	5.6-7.3	---	---
		30-60	10-20	7.4-8.4	15-25	0-1
Belview-----	6	0-9	11-18	7.4-8.4	5-30	---
		9-50	10-20	7.4-8.4	15-25	0-1
		50-60	10-20	7.4-8.4	10-20	0-1
Hamel-----	2	0-22	15-30	5.6-7.3	---	---
		22-41	15-30	5.6-7.3	---	---
		41-80	10-20	7.4-8.4	10-20	0-1
Terril-----	2	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L110F:						
Lester-----	55	0-6	10-24	5.6-7.3	---	---
		6-25	10-23	5.1-7.3	---	---
		25-60	10-20	7.4-8.4	10-20	0-1
Ridgeton-----	30	0-32	20-25	6.1-7.3	---	---
		32-40	15-25	6.1-7.3	---	---
		40-80	10-20	7.4-8.4	10-20	0-1
Cokato-----	8	0-16	15-25	5.6-7.3	---	---
		16-30	15-20	5.6-7.3	---	---
		30-60	10-20	7.4-8.4	15-25	0-1
Belview-----	4	0-9	11-18	7.4-8.4	5-30	---
		9-50	10-20	7.4-8.4	15-25	0-1
		50-60	10-20	7.4-8.4	10-20	0-1
Terril-----	2	0-24	20-25	6.1-7.3	---	---
		24-37	20-25	6.1-7.3	---	---
		37-57	15-25	6.1-7.3	---	---
		57-80	10-20	7.4-8.4	10-20	0-1
Hamel-----	1	0-22	15-30	5.6-7.3	---	---
		22-41	15-30	5.6-7.3	---	---
		41-80	10-20	7.4-8.4	10-20	0-1
L131A:						
Litchfield-----	85	0-20	6.0-14	5.1-7.3	---	---
		20-33	3.0-8.0	5.1-7.3	---	---
		33-40	5.0-12	5.1-7.3	---	---
		40-80	1.0-6.0	6.1-7.8	0-5	---
Darfur-----	10	0-16	10-20	6.1-7.3	---	---
		16-32	5.0-15	6.6-7.3	---	---
		32-80	1.0-10	6.6-7.4	0-15	---
Crowfork-----	5	0-11	3.0-10	5.6-7.3	---	---
		11-20	1.0-7.0	5.1-6.5	---	---
		20-76	1.0-7.0	5.6-7.3	---	---
		76-80	1.0-4.0	6.1-7.8	0-15	---
L132A:						
Hamel-----	50	0-24	15-30	5.6-7.3	---	---
		24-46	15-30	5.6-7.3	---	---
		46-80	10-20	7.4-8.4	10-20	0-1
Glencoe, depressional	30	0-13	22-33	6.1-7.8	0-5	---
		13-31	16-27	6.1-7.8	0-5	---
		31-45	14-25	6.6-7.8	0-5	---
		45-80	10-20	7.4-8.4	10-20	0-1
Hamel, overwash-----	15	0-13	15-30	5.6-7.3	---	---
		13-29	15-30	5.6-7.3	---	---
		29-50	15-30	5.6-7.3	---	---
		50-80	10-20	7.4-8.4	10-20	0-1
Terril-----	5	0-27	20-25	6.1-7.3	---	---
		27-40	20-25	6.1-7.3	---	---
		40-63	15-25	6.1-7.3	---	---
		63-80	10-20	7.4-8.4	10-20	0-1
M-W.						
Water, miscellaneous						

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
U1A. Urban land- Udorthents, wet substratum						
U2A. Udorthents, wet substratum						
U3B. Udorthents (cut and fill land)						
U4A. Urban land- Udipsamments (cut and fill land)						
U5A. Urban land- Udorthents, wet substratum						
U6B. Urban land- Udorthents (cut and fill land)						
W. Water						



Table 20.--Soil Moisture Status by Depth

(See text for definitions of terms used in this table. Depths of layers are in feet)

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D1B:													
Anoka, terrace--	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Zimmerman, terrace-----	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Kost-----	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
D1C:													
Anoka, terrace--	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Zimmerman, terrace-----	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Kost-----	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
D2A:													
Elkriver, rarely flooded-----	B	0.0-5.0: Moist 5.0-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.0: Moist 6.0-6.7: Wet	0.0-6.7: Moist ---	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D2A: Mosford, rarely flooded-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.0: Moist 5.0-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Elkriver, occasionally flooded-----	B	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet
D3A: Elkriver, occasionally flooded-----	B	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet
Fordum, frequently flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Winterfield, occasionally flooded-----	A	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet
D4A: Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Verndale, acid substratum----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Almora-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D4B:													
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Verndale, acid substratum----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Almora-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D4C:													
Dorset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Verndale, acid substratum----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Almora-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D5B:													
Dorset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Two Inlets-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Verndale, acid substratum----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
D5C:													
Dorset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D5C:													
Two Inlets-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
Verndale, acid substratum-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D5D:													
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Two Inlets-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
Verndale, acid substratum-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D6A:													
Verndale, acid substratum-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D6B: Verndale, acid substratum-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
D6C: Verndale, acid substratum-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Dorset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
D7A: Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Mosford-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D7B: Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Mosford-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D7C:													
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Sandberg-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Mosford-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D8B:													
Sandberg-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Arvilla, MAP >25	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D8C:													
Sandberg-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Corliss-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
D8D:													
Sandberg-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D8D: Corliss-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
D8E: Sandberg-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Corliss-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
D10A: Forada-----	B/D	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet
Depressional soil-----	B/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
D11A: Lindaas-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D11A: Lindaas, sandy substratum-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Depressional soil-----	C/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
D12B: Bygland, MAP >25	C	0.0-4.5: Moist 4.5-6.0: Wet 6.0-6.7: Moist	0.0-5.0: Moist 5.0-6.0: Wet 6.0-6.7: Moist	0.0-4.0: Moist 4.0-6.0: Wet 6.0-6.7: Moist	0.0-3.0: Moist 3.0-6.0: Wet 6.0-6.7: Moist	0.0-3.5: Moist 3.5-6.0: Wet 6.0-6.7: Moist	0.0-4.0: Moist 4.0-6.0: Wet 6.0-6.7: Moist	0.0-6.7: Moist --- --- ---	0.0-6.7: Moist --- --- ---	0.0-6.7: Moist --- --- ---	0.0-4.5: Moist 4.5-6.0: Wet 6.0-6.7: Moist	0.0-3.5: Moist 3.5-6.0: Wet 6.0-6.7: Moist	0.0-4.0: Moist 4.0-6.0: Wet 6.0-6.7: Moist
Bygland, sandy substratum-----	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.8: Moist 2.8-3.2: Wet 3.2-6.7: Moist	0.0-2.3: Moist 2.3-3.2: Wet 3.2-6.7: Moist	0.0-2.5: Moist 2.5-3.2: Wet 3.2-6.7: Moist	0.0-2.8: Moist 2.8-3.2: Wet 3.2-6.7: Moist	0.0-6.7: Moist --- --- ---	0.0-6.7: Moist --- --- ---	0.0-6.7: Moist --- --- ---	0.0-3.0: Moist 3.0-3.2: Wet 3.2-6.7: Moist	0.0-2.6: Moist 2.6-3.2: Wet 3.2-6.7: Moist	0.0-6.7: Moist --- ---
Lindaas-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Depressional soil-----	C/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet



Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-logic group	January	February	March	April	May	June	July	August	September	October	November	December
D12C2: Bygland, MAP >25	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-3.0: Moist 3.0-6.0: Wet 6.0-6.7: Moist	0.0-3.5: Moist 3.5-6.0: Wet 6.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Bygland, sandy substratum-----	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.8: Moist 2.8-3.2: Wet 3.2-6.7: Moist	0.0-2.3: Moist 2.3-3.2: Wet 3.2-6.7: Moist	0.0-2.5: Moist 2.5-3.2: Wet 3.2-6.7: Moist	0.0-2.8: Moist 2.8-3.2: Wet 3.2-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-3.0: Moist 3.0-3.2: Wet 3.2-6.7: Moist	0.0-2.6: Moist 2.6-3.2: Wet 3.2-6.7: Moist	0.0-6.7: Moist --- ---
Lindaas-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Depressional soil-----	C/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
D13A: Langola, terrace	C	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-3.0: Moist 3.0-4.5: Wet 4.5-5.0: Moist	0.0-2.0: Moist 2.0-4.5: Wet 4.5-5.0: Moist	0.0-2.5: Moist 2.5-4.5: Wet 4.5-5.0: Moist	0.0-3.5: Moist 3.5-4.5: Wet 4.5-5.0: Moist	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-4.5: Wet 4.5-5.0: Moist	0.0-3.3: Moist 3.3-4.5: Wet 4.5-5.0: Moist	0.0-4.0: Moist 4.0-4.5: Wet 4.5-5.0: Moist
Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Hubbard-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-logic group	January	February	March	April	May	June	July	August	September	October	November	December
D13B:													
Langola, terrace	C	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-3.5: Moist 3.5-4.5: Wet	0.0-2.5: Moist 2.5-4.5: Wet	0.0-3.0: Moist 3.0-4.5: Wet	0.0-4.0: Moist 4.0-4.5: Wet	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.0: Moist 4.0-4.5: Wet	0.0-3.3: Moist 3.3-4.5: Wet	0.0-4.0: Moist 4.0-4.5: Wet
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
D15A:													
Seelyeville, drained-----	A/D	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet
Markey, drained	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Mineral soil, drained-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
D16A:													
Seelyeville, ponded-----	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
Markey, ponded--	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
Mineral soil, ponded-----	B/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D17A: Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Isan-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Hubbard-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
D18B: Braham, terrace	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-3.5: Moist 3.5-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
D19A: Fordum, frequently flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Winterfield, frequently flooded-----	A	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D19A: Fordum, occasionally flooded-----	D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
D20A: Isan-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Isan, depressional---	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
D21A: Isan, depressional---	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Isan-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
D23A: Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D23A: Mosford-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D24A: Sedgeville, occasionally flooded-----	D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Elkriver, occasionally flooded-----	B	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet
D25A: Soderville, terrace-----	A	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-2.0: Moist 2.0-3.7: Wet 3.7-5.0: Moist	0.0-3.0: Moist 3.0-3.7: Wet 3.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---
Forada-----	B/D	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet
D26A: Foldahl, MAP >25	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-3.0: Moist 3.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.8: Moist 2.8-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet
Hubbard-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D26A: Isan-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
D27A: Dorset, loamy substratum----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Southhaven-----	B	0.0-5.2: Moist 5.2-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.8: Moist 4.8-6.7: Wet
D28B: Urban land.													
Bygland, MAP >25	C	0.0-4.5: Moist 4.5-6.0: Wet 6.0-6.7: Moist	0.0-5.0: Moist 5.0-6.0: Wet 6.0-6.7: Moist	0.0-4.0: Moist 4.0-6.0: Wet 6.0-6.7: Moist	0.0-3.0: Moist 3.0-6.0: Wet 6.0-6.7: Moist	0.0-3.5: Moist 3.5-6.0: Wet 6.0-6.7: Moist	0.0-4.0: Moist 4.0-6.0: Wet 6.0-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.5: Moist 4.5-6.0: Wet 6.0-6.7: Moist	0.0-3.5: Moist 3.5-6.0: Wet 6.0-6.7: Moist	0.0-4.0: Moist 4.0-6.0: Wet 6.0-6.7: Moist
Bygland, sandy substratum----	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.8: Moist 2.8-3.2: Wet 3.2-6.7: Moist	0.0-2.3: Moist 2.3-3.2: Wet 3.2-6.7: Moist	0.0-2.5: Moist 2.5-3.2: Wet 3.2-6.7: Moist	0.0-2.8: Moist 2.8-3.2: Wet 3.2-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-3.0: Moist 3.0-3.2: Wet 3.2-6.7: Moist	0.0-2.6: Moist 2.6-3.2: Wet 3.2-6.7: Moist	0.0-6.7: Moist ---
D29B: Urban land.													
Hubbard, bedrock substratum----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D29B: Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Mosford-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
D30A: Seelyeville, surface drained	A/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Markey, surface drained-----	A/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Mineral soil, surface drained	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
D31A: Urban land.													
Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Isan-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D33B: Urban land.													
Dorset-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Verndale, acid substratum----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
D33C: Urban land.													
Dorset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Verndale, acid substratum----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
D34B: Urban land.													
Hubbard-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Mosford-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist



Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-logic group	January	February	March	April	May	June	July	August	September	October	November	December
D35A: Elkriver, occasionally flooded-----	B	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet
Fordum, occasionally flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Moist Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Udipsamments.													
Winterfield, occasionally flooded-----	A	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet
D37F: Dorset, bedrock substratum----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Rock outcrop.													
Hubbard, bedrock substratum----	A	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
D40A: Kratka, thick solum-----	B/D	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.7: Moist 1.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
D40A: Duelm-----	A	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.5: Moist 3.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Foldahl, MAP >25	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-3.0: Moist 3.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.8: Moist 2.8-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet
D41C: Urban land.													
Waukon-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Braham-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-3.5: Moist 3.5-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
D43A: Gonvick, terrace	B	0.0-4.9: Moist 4.9-5.0: Wet	0.0-5.0: Moist ---	0.0-3.0: Moist 3.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-3.9: Moist 3.9-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet
Braham-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-3.5: Moist 3.5-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
GP. Pits, gravel- Udipsammments													
L2B: Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L2B: Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L2C: Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Tomall-----	B	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L2D: Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Tomall-----	B	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L2E: Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L2E:													
Tomall-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L3A:													
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L3B:													
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L3C:													
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Tomall-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L4B:													
Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L4B: Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L4C: Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L4D: Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L6A: Biscay-----	B/D	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet
Biscay, depressional---	B/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
Mayer-----	B/D	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet
L7A: Biscay, depressional---	B/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L7A:													
Biscay-----	B/D	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet
Mayer-----	B/D	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet
L8A:													
Darfur-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Dassel-----	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
L9A:													
Minnetonka-----	C/D	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet
Depressional soil-----	C/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
L10B:													
Kasota-----	C	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Wet soil in swales-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L11B: Grays-----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-2.5: Moist 2.5-3.4: Wet 3.4-5.0: Moist	0.0-2.8: Moist 2.8-4.0: Wet 4.0-5.0: Moist	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---
Kasota-----	C	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L12A: Muskego, frequently flooded-----	D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Blue Earth, frequently flooded-----	D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Houghton, frequently flooded-----	D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
Oshawa, frequently flooded-----	D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
L13A: Klossner, drained-----	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L13A: Mineral soil, drained-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Houghton, drained-----	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L14A: Houghton, drained-----	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Klossner, drained-----	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Mineral soil, drained-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L15A: Klossner, ponded	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
Okoboji, ponded	C/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Glencoe, ponded	B/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Houghton, ponded	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet



Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L16A:													
Muskego, ponded	A/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Blue Earth, ponded-----	B/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Houghton, ponded	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
Klossner, ponded	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet
L17B:													
Angus-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Moon-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L18A:													
Shields-----	C	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-3.0: Moist 3.0-3.4: Wet 3.4-6.7: Moist	0.0-1.0: Moist 1.0-3.4: Wet 3.4-6.7: Moist	0.0-1.5: Moist 1.5-3.4: Wet 3.4-6.7: Moist	0.0-2.5: Moist 2.5-3.4: Wet 3.4-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-3.0: Moist 3.0-3.4: Wet 3.4-6.7: Moist	0.0-2.7: Moist 2.7-3.4: Wet 3.4-6.7: Moist	0.0-3.0: Moist 3.0-3.4: Wet 3.4-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L18A: Lerdal-----	C	0.0-3.0: Moist 3.0-5.0: Wet --- ---	0.0-4.9: Moist 4.9-5.0: Wet --- ---	0.0-3.0: Moist 3.0-4.0: Wet 4.0-4.4: Moist 4.4-5.0: Wet	0.0-1.7: Moist 1.7-5.0: Wet --- ---	0.0-1.7: Moist 1.7-5.0: Wet --- ---	0.0-1.8: Moist 1.8-5.0: Wet --- ---	0.0-3.0: Moist 3.0-5.0: Wet --- ---	0.0-4.9: Moist 4.9-5.0: Wet --- ---	0.0-3.9: Moist 3.9-5.0: Wet --- ---	0.0-2.3: Moist 2.3-5.0: Wet --- ---	0.0-1.6: Moist 1.6-5.0: Wet --- ---	0.0-2.0: Moist 2.0-5.0: Wet --- ---
Mazaska-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L19B: Moon-----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
Finchford-----	A	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---
L20B: Fedji, silty substratum----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---
Finchford-----	A	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---
L21A: Canisteo-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L21A:													
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Glencoe-----	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
L22C2:													
Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Angus-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L22D2:													
Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L22E:													
Lester, morainic	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L22F:													
Lester, morainic	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L23A:													
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Glencoe-----	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L23A: Nessel-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
L24A: Glencoe, depressional---	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L25A: Le Sueur-----	B	0.0-3.9: Moist 3.9-6.7: Wet	0.0-6.7: Moist ---	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-6.7: Moist ---	0.0-3.9: Moist 3.9-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Angus-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
L26A: Shorewood-----	C	0.0-3.9: Moist 3.9-5.0: Wet	0.0-5.0: Moist ---	0.0-2.8: Moist 2.8-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.9: Moist 3.9-5.0: Wet	0.0-5.0: Moist ---	0.0-3.9: Moist 3.9-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-2.6: Moist 2.6-5.0: Wet	0.0-2.8: Moist 2.8-5.0: Wet
Minnetonka-----	C/D	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.5-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L26A: Good Thunder----	C	0.0-3.9: Moist 3.9-6.7: Wet	0.0-5.6: Moist 5.6-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-5.6: Moist 5.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet
L26B: Shorewood-----	C	0.0-5.0: Moist --- --- ---	0.0-5.0: Moist --- --- ---	0.0-3.0: Moist 3.0-4.0: Wet 4.0-4.4: Moist 4.4-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet --- ---	0.0-2.5: Moist 2.5-5.0: Wet --- ---	0.0-3.5: Moist 3.5-5.0: Wet --- ---	0.0-5.0: Moist --- --- ---	0.0-5.0: Moist --- --- ---	0.0-5.0: Moist --- --- ---	0.0-5.0: Moist --- --- ---	0.0-4.6: Moist 4.6-5.0: Wet --- ---	0.0-4.6: Moist 4.6-5.0: Wet --- ---
Good Thunder----	C	0.0-3.9: Moist 3.9-6.7: Wet	0.0-5.6: Moist 5.6-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-5.6: Moist 5.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet
Minnetonka-----	C/D	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet
L26C2: Shorewood, eroded-----	C	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-1.5: Moist 1.5-3.5: Wet 3.5-5.0: Moist	0.0-2.5: Moist 2.5-4.0: Wet 4.0-5.0: Moist	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---
Minnetonka-----	C/D	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-0.7: Moist 0.7-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet
L27A: Suckercreek, frequently flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L27A: Suckercreek, occasionally flooded-----	D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Hanlon, occasionally flooded-----	B	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
L28A: Suckercreek, occasionally flooded-----	D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Suckercreek, frequently flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Hanlon, occasionally flooded-----	B	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
L29A: Hanlon, occasionally flooded-----	B	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-2.8: Moist 2.8-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-logic group	January	February	March	April	May	June	July	August	September	October	November	December
L29A: Suckercreek, occasionally flooded-----	D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Suckercreek, frequently flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L30A: Medo, surface drained-----	A/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Medo, drained---	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Mineral soil, drained-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L31A: Medo, ponded----	A/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Dassel, ponded--	B/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Biscay, ponded--	B/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Houghton, ponded	A/D	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet



Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L31A: Muskego, ponded	A/D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
L32D: Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Crowfork-----	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Tomall-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L32F: Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Crowfork-----	A	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Tomall-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L35A: Lerdal-----	C	0.0-3.0: Moist 3.0-5.0: Wet ---	0.0-4.9: Moist 4.9-5.0: Wet ---	0.0-3.0: Moist 3.0-4.0: Wet 4.0-4.4: Moist 4.4-5.0: Wet	0.0-1.7: Moist 1.7-5.0: Wet ---	0.0-1.7: Moist 1.7-5.0: Wet ---	0.0-1.8: Moist 1.8-5.0: Wet ---	0.0-3.0: Moist 3.0-5.0: Wet ---	0.0-4.9: Moist 4.9-5.0: Wet ---	0.0-3.9: Moist 3.9-5.0: Wet ---	0.0-2.3: Moist 2.3-5.0: Wet ---	0.0-1.6: Moist 1.6-5.0: Wet ---	0.0-2.0: Moist 2.0-5.0: Wet ---
Mazaska-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L35A:													
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Le Sueur-----	B	0.0-3.9: Moist 3.9-6.7: Wet	0.0-6.7: Moist ---	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-6.7: Moist ---	0.0-3.9: Moist 3.9-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet
L36A:													
Hamel, overwash	B	0.0-3.6: Moist 3.6-6.7: Wet	0.0-4.3: Moist 4.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Glencoe-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L37B:													
Angus, morainic	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Angus, eroded---	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Le Sueur-----	B	0.0-3.9: Moist 3.9-6.7: Wet	0.0-6.7: Moist ---	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-6.7: Moist ---	0.0-3.9: Moist 3.9-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L37B: Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L38A: Rushriver, occasionally flooded-----	B/D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Oshawa, frequently flooded-----	D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Minneiska, occasionally flooded-----	B	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.7: Moist 2.7-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet
Algansee, occasionally flooded-----	A	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.8: Moist 1.8-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet
L39A: Minneiska, occasionally flooded-----	B	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.7: Moist 2.7-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L39A: Rushriver, occasionally flooded-----	B/D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Oshawa, frequently flooded-----	D	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet	0.0-5.0: Wet
Alganssee, occasionally flooded-----	A	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.8: Moist 1.8-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet
L40B: Angus-----	B	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Kilkenny-----	C	0.0-4.9: Moist 4.9-6.7: Wet --- ---	0.0-6.7: Moist --- --- ---	0.0-3.0: Moist 3.0-4.0: Wet 4.0-4.4: Moist 4.4-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet --- ---	0.0-3.0: Moist 3.0-6.7: Wet --- ---	0.0-4.4: Moist 4.4-6.7: Wet --- ---	0.0-6.7: Moist --- --- ---	0.0-6.7: Moist --- --- ---	0.0-6.7: Moist --- --- ---	0.0-5.2: Moist 5.2-6.7: Wet --- ---	0.0-4.6: Moist 4.6-6.7: Wet --- ---	0.0-4.6: Moist 4.6-6.7: Wet --- ---
Lerdal-----	C	0.0-3.0: Moist 3.0-6.7: Wet --- ---	0.0-4.9: Moist 4.9-6.7: Wet --- ---	0.0-3.0: Moist 3.0-4.0: Wet 4.0-4.4: Moist 4.4-6.7: Wet	0.0-1.7: Moist 1.7-6.7: Wet --- ---	0.0-1.7: Moist 1.7-6.7: Wet --- ---	0.0-1.8: Moist 1.8-6.7: Wet --- ---	0.0-3.0: Moist 3.0-6.7: Wet --- ---	0.0-4.9: Moist 4.9-6.7: Wet --- ---	0.0-3.9: Moist 3.9-6.7: Wet --- ---	0.0-2.3: Moist 2.3-6.7: Wet --- ---	0.0-1.6: Moist 1.6-6.7: Wet --- ---	0.0-2.0: Moist 2.0-6.7: Wet --- ---

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L40B: Mazaska-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L41C2: Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Kilkenny, eroded	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.5: Moist 2.5-3.5: Wet 3.5-6.7: Moist	0.0-2.8: Moist 2.8-4.0: Wet 4.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Derrynane-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L41D2: Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Kilkenny, eroded	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.5: Moist 2.5-3.5: Wet 3.5-6.7: Moist	0.0-2.8: Moist 2.8-4.0: Wet 4.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Derrynane-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L41D2: Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L41E: Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Kilkenny-----	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.5: Moist 2.5-3.5: Wet 3.5-6.7: Moist	0.0-2.8: Moist 2.8-4.0: Wet 4.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Derrynane-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L41F: Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Kilkenny-----	C	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-2.5: Moist 2.5-3.5: Wet 3.5-6.7: Moist	0.0-2.8: Moist 2.8-4.0: Wet 4.0-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L41F: Derrynane-----	C/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L42B: Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Gotham-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Grays-----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet
L42C: Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Gotham-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Grays-----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet
L42D: Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Gotham-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Grays-----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L42E:													
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Gotham-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Grays-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet
L42F:													
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Gotham-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Grays-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet
L43A:													
Brouillett, occasionally flooded-----	B	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet
Minneiska, occasionally flooded-----	B	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-2.7: Moist 2.7-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet



Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L43A: Rushriver, occasionally flooded-----	B/D	0.0-1.8: Moist 1.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.3: Moist 2.3-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
L44A: Nessel-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Angus-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
L45A: Dundas-----	B	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.9: Moist 4.9-6.7: Wet	0.0-6.7: Moist ---	0.0-4.9: Moist 4.9-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Cordova-----	B/D	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.8: Moist 0.8-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Nessel-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
Glencoe-----	B/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L46A:													
Tomall-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L47A:													
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L47B:													
Eden Prairie----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L47C:													
Eden Prairie----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L49A: Klossner, surface drained	A/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Klossner, drained-----	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Mineral soil, drained-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
L50A: Houghton, surface drained	A/D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Muskego, surface drained-----	A/D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
Klossner, drained-----	A/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Mineral soil, drained-----	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L52C: Urban land.													
Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
L52E: Urban land.													
Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
L53B: Urban land.													
Moon-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L54A: Urban land.													
Dundas-----	B	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.9: Moist 4.9-6.7: Wet	0.0-6.7: Moist ---	0.0-4.9: Moist 4.9-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Nessel-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.0: Moist 4.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
L55B: Urban land.													

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L55B:													
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Rasset-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Eden Prairie----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L55C:													
Urban land.													
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hawick-----	A	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Crowfork-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
L56A:													
Muskego, frequently flooded-----	D	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-5.0: Wet --- ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet
Klossner, frequently flooded-----	D	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
Suckercreek, frequently flooded-----	D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.8: Moist 1.8-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-6.7: Wet --- ---	0.0-0.8: Moist 0.8-6.7: Wet	0.0-1.2: Moist 1.2-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L58B:													
Koronis-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Gotham-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
L58C2:													
Koronis, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Gotham-----	A	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---
L58D2:													
Koronis, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L58D2: Gotham-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L58E: Koronis-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Gotham-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L59A: Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Lundlake, depressional---	B/D	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet
Marcellon-----	B	0.0-4.0: Moist 4.0-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-4.9: Moist 4.9-5.0: Wet	0.0-5.0: Moist ---	0.0-4.9: Moist 4.9-5.0: Wet	0.0-4.0: Moist 4.0-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-3.3: Moist 3.3-5.0: Wet
L60B: Angus-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L60B:													
Moon-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L61C2:													
Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Metea, eroded---	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L61D2:													
Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Metea, eroded---	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist



Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L61D2: Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L61E: Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Metea-----	B	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-5.0: Moist --- ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Terril-----	B	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-6.7: Moist --- ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L62B: Koronis-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
L62C2: Koronis, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L62C2:													
Kingsley, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Malardi, eroded	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
L62D2:													
Koronis, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley, eroded	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Malardi, eroded	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
L62E:													
Koronis-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Kingsley-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
L64A:													
Tadkee-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L64A: Tadkee, depressional---	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Better drained soil-----	B	0.0-4.9: Moist 4.9-6.7: Wet	0.0-6.7: Moist ---	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.0: Moist 4.6-6.7: Wet	0.0-4.9: Moist 4.9-6.7: Wet	0.0-6.7: Moist ---	0.0-4.9: Moist 4.9-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet
Granby-----	A/D	0.0-1.1: Moist 1.1-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.8: Moist 1.8-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-0.8: Moist 0.8-5.0: Wet
Less sandy soil	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L70C2: Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi, eroded	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L70D2: Lester, eroded--	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi, eroded	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L70D2:													
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
L70E:													
Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Malardi-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
L71C:													
Metea-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-5.0: Moist ---
Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Moon-----	B	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-2.5: Moist 2.5-5.0: Wet	0.0-3.0: Moist 3.0-5.0: Wet	0.0-5.0: Moist ---	0.0-5.0: Moist ---	0.0-0.7: Dry 0.7-5.0: Moist	0.0-5.0: Moist ---	0.0-4.6: Moist 4.6-5.0: Wet	0.0-3.5: Moist 3.5-5.0: Wet	0.0-4.5: Moist 4.5-5.0: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L72A: Lundlake, depressional----	B/D	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-5.0: Wet ---	0.0-5.0: Wet ---	0.0-0.5: Moist 0.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-2.0: Moist 2.0-5.0: Wet	0.0-1.5: Moist 1.5-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet	0.0-1.0: Moist 1.0-5.0: Wet
Forestcity-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
L110E: Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Cokato-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Belview-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
L110F: Lester-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Ridgeton-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Cokato-----	B	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
L110F:													
Belview-----	B	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet
L131A:													
Litchfield-----	B	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.3: Moist 2.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet
Darfur-----	B/D	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet
Crowfork-----	A	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-0.7: Dry 0.7-6.7: Moist	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---
L132A:													
Hamel-----	B/D	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.7: Moist 0.7-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-3.3: Moist 3.3-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-1.6: Moist 1.6-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.3: Moist 1.3-6.7: Wet
Glencoe, depressional---	B/D	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet
Hamel, overwash	B	0.0-3.6: Moist 3.6-6.7: Wet	0.0-4.3: Moist 4.3-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-2.6: Moist 2.6-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet
Terril-----	B	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-4.6: Moist 4.6-6.7: Wet	0.0-3.6: Moist 3.6-6.7: Wet	0.0-3.9: Moist 3.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-6.7: Moist ---	0.0-5.9: Moist 5.9-6.7: Wet	0.0-4.6: Moist 4.6-6.7: Wet	0.0-5.2: Moist 5.2-6.7: Wet

Table 20.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro- logic group	January	February	March	April	May	June	July	August	September	October	November	December
M-W. Water, miscellaneous													
U1A. Urban land- Udorthents, wet substratum													
U2A. Udorthents, wet substratum													
U3B. Udorthents (cut and fill land)													
U4A. Urban land- Udipsamments (cut and fill land)													
U5A. Urban land- Udorthents, wet substratum													
U6B. Urban land- Udorthents (cut and fill land)													
W. Water													

Table 21.--Flooding Frequency and Duration

(See text for definitions of terms used in this table. Absence of an entry indicates that no estimate was made)

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D1B:												
Anoka, terrace--	None	None	None	None	None	None	None	None	None	None	None	None
Zimmerman, terrace-----	None	None	None	None	None	None	None	None	None	None	None	None
Kost-----	None	None	None	None	None	None	None	None	None	None	None	None
D1C:												
Anoka, terrace--	None	None	None	None	None	None	None	None	None	None	None	None
Zimmerman, terrace-----	None	None	None	None	None	None	None	None	None	None	None	None
Kost-----	None	None	None	None	None	None	None	None	None	None	None	None
D2A:												
Elkriver, rarely flooded-----	None	None	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief	None	None	None	None	None	None
Mosford, rarely flooded-----	None	None	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief	None	None	None	None	None	None
Elkriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
D3A:												
Elkriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D3A: Fordum, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Winterfield, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	None	None	None	None	None
D4A: Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Almora-----	None	None	None	None	None	None	None	None	None	None	None	None
D4B: Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Almora-----	None	None	None	None	None	None	None	None	None	None	None	None
D4C: Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Almora-----	None	None	None	None	None	None	None	None	None	None	None	None
D5B: Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Two Inlets-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D7A:												
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D7B:												
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D7C:												
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D8B:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Arvilla, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
D8C:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Corliss-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D8D:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Corliss-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D8E:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Corliss-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D10A:												
Forada-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D13B: Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
D15A: Seelyeville, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Markey, drained	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
D16A: Seelyeville, ponded-----	None	None	None	None	None	None	None	None	None	None	None	None
Markey, ponded--	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, ponded-----	None	None	None	None	None	None	None	None	None	None	None	None
D17A: Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D18B: Braham, terrace-	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
D19A: Fordum, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Winterfield, frequently flooded-----	None	None	Frequent Long	Frequent Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D19A: Fordum, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
D20A: Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
Isan, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
D21A: Isan, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
D23A: Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D24A: Sedgeville, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
Elkriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
D25A: Soderville, terrace-----	None	None	None	None	None	None	None	None	None	None	None	None
Forada-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D26A:												
Foldahl, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
D27A:												
Dorset, loamy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D28B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Bygland, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
Bygland, sandy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
D29B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard, bedrock substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D30A:												
Seelyeville, surface drained	None	None	None	None	None	None	None	None	None	None	None	None
Markey, surface drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, surface drained	None	None	None	None	None	None	None	None	None	None	None	None
D31A:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D31A:												
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
D33B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D33C:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D34B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D35A:												
Elkriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
Fordum, occasionally flooded-----	None	None	Occasional Long	Occasional Long	Occasional Long	Occasional Long	Occasional Brief	Occasional Brief	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D35A: Udipsamments----	None	None	None	None	None	None	None	None	None	None	None	None
Winterfield, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
D37F: Dorset, bedrock substratum----	None	None	None	None	None	None	None	None	None	None	None	None
Rock outcrop.												
Hubbard, bedrock substratum----	None	None	None	None	None	None	None	None	None	None	None	None
D40A: Kratka, thick solum-----	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
Foldahl, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
D41C: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Waukon-----	None	None	None	None	None	None	None	None	None	None	None	None
Braham-----	None	None	None	None	None	None	None	None	None	None	None	None
D43A: Gonvick, terrace	None	None	None	None	None	None	None	None	None	None	None	None
Braham-----	None	None	None	None	None	None	None	None	None	None	None	None
GP. Pits, gravel- Udipsamments												
L2B: Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L3C:												
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Tomall-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L4B:												
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L4C:												
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L4D:												
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L6A:												
Biscay-----	None	None	None	None	None	None	None	None	None	None	None	None
Biscay, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Mayer-----	None	None	None	None	None	None	None	None	None	None	None	None
L7A:												
Biscay, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Biscay-----	None	None	None	None	None	None	None	None	None	None	None	None
Mayer-----	None	None	None	None	None	None	None	None	None	None	None	None
L8A:												
Darfur-----	None	None	None	None	None	None	None	None	None	None	None	None
Dassel-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L9A:												
Minnetonka-----	None	None	None	None	None	None	None	None	None	None	None	None
Depressional soil-----	None	None	None	None	None	None	None	None	None	None	None	None
L10B:												
Kasota-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
Wet soil in swales-----	None	None	None	None	None	None	None	None	None	None	None	None
L11B:												
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
Kasota-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
L12A:												
Muskego, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Blue Earth, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Houghton, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Oshawa, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
L13A:												
Klossner, drained-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L13A:												
Mineral soil, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Houghton, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
L14A:												
Houghton, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Klossner, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
L15A:												
Klossner, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Okoboji, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Houghton, ponded	None	None	None	None	None	None	None	None	None	None	None	None
L16A:												
Muskego, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Blue Earth, ponded-----	None	None	None	None	None	None	None	None	None	None	None	None
Houghton, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Klossner, ponded	None	None	None	None	None	None	None	None	None	None	None	None
L17B:												
Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Moon-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L22E:												
Lester, morainic	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
L22F:												
Lester, morainic	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L23A:												
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe-----	None	None	None	None	None	None	None	None	None	None	None	None
Nessel-----	None	None	None	None	None	None	None	None	None	None	None	None
L24A:												
Glencoe, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
L25A:												
Le Sueur-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
L26A:												
Shorewood-----	None	None	None	None	None	None	None	None	None	None	None	None
Minnetonka-----	None	None	None	None	None	None	None	None	None	None	None	None
Good Thunder----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L26B:												
Shorewood-----	None	None	None	None	None	None	None	None	None	None	None	None
Good Thunder----	None	None	None	None	None	None	None	None	None	None	None	None
Minnetonka-----	None	None	None	None	None	None	None	None	None	None	None	None
L26C2:												
Shorewood, eroded-----	None	None	None	None	None	None	None	None	None	None	None	None
Minnetonka-----	None	None	None	None	None	None	None	None	None	None	None	None
L27A:												
Suckercreek, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Suckercreek, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
Hanlon, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
L28A:												
Suckercreek, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
Suckercreek, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L28A: Hanlon, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
L29A: Hanlon, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
Suckercreek, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
Suckercreek, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
L30A: Medo, surface drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Medo, drained--	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
L31A: Medo, ponded----	None	None	None	None	None	None	None	None	None	None	None	None
Dassel, ponded--	None	None	None	None	None	None	None	None	None	None	None	None
Biscay, ponded--	None	None	None	None	None	None	None	None	None	None	None	None
Houghton, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Muskego, ponded	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L32D:												
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Tomall-----	None	None	None	None	None	None	None	None	None	None	None	None
L32F:												
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Tomall-----	None	None	None	None	None	None	None	None	None	None	None	None
L35A:												
Lerdal-----	None	None	None	None	None	None	None	None	None	None	None	None
Mazaska-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Le Sueur-----	None	None	None	None	None	None	None	None	None	None	None	None
L36A:												
Hamel, overwash	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe-----	None	None	None	None	None	None	None	None	None	None	None	None
L37B:												
Angus, morainic	None	None	None	None	None	None	None	None	None	None	None	None
Angus, eroded---	None	None	None	None	None	None	None	None	None	None	None	None
Le Sueur-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L38A: Rushriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
Oshawa, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None
Minneiska, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
Alganssee, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
L39A: Minneiska, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
Rushriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
Oshawa, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L39A: Algansee, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
L40B: Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny-----	None	None	None	None	None	None	None	None	None	None	None	None
Lerdal-----	None	None	None	None	None	None	None	None	None	None	None	None
Mazaska-----	None	None	None	None	None	None	None	None	None	None	None	None
L41C2: Lester, eroded--	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane-----	None	None	None	None	None	None	None	None	None	None	None	None
L41D2: Lester, eroded--	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
L41E: Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L41F:												
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane-----	None	None	None	None	None	None	None	None	None	None	None	None
L42B:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42C:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42D:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42E:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42F:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L43A: Brouillett, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
Minneiska, occasionally flooded-----	None	None	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	None	None	None	None
Rushriver, occasionally flooded-----	None	None	Occasional Brief	Occasional Long	Occasional Long	Occasional Long	Occasional Very brief	Occasional Very brief	None	None	None	None
L44A: Nessel-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
L45A: Dundas-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Nessel-----	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe-----	None	None	None	None	None	None	None	None	None	None	None	None
L46A: Tomall-----	None	None	None	None	None	None	None	None	None	None	None	None
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
L47A: Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L47A: Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
L47B: Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
L47C: Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
L49A: Klossner, surface drained	None	None	None	None	None	None	None	None	None	None	None	None
Klossner, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
L50A: Houghton, surface drained	None	None	None	None	None	None	None	None	None	None	None	None
Muskego, surface drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Klossner, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	None	None	None	None	None	None	None	None	None	None
L52C: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L52C: Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
L52E: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
L53B: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Moon-----	None	None	None	None	None	None	None	None	None	None	None	None
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
L54A: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Dundas-----	None	None	None	None	None	None	None	None	None	None	None	None
Nessel-----	None	None	None	None	None	None	None	None	None	None	None	None
L55B: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L55C: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L56A: Muskego, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Brief	Occasional Brief	None	None	None	None	None
Klossner, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Brief	Occasional Brief	None	None	None	None	None
Suckercreek, frequently flooded-----	None	None	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	None	None	None	None	None
L58B: Koronis-----	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
L58C2: Koronis, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
L58D2: Koronis, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
L58E: Koronis-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L61E:												
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
L62B:												
Koronis-----	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L62C2:												
Koronis, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Malardi, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L62D2:												
Koronis, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Malardi, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L62E:												
Koronis-----	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L64A:												
Tadkee-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L71C:												
Moon-----	None	None	None	None	None	None	None	None	None	None	None	None
L72A:												
Lundlake, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L110E:												
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Cokato-----	None	None	None	None	None	None	None	None	None	None	None	None
Belview-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
L110F:												
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Cokato-----	None	None	None	None	None	None	None	None	None	None	None	None
Belview-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L131A:												
Litchfield-----	None	None	None	None	None	None	None	None	None	None	None	None
Darfur-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
L132A:												
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 21.--Flooding Frequency and Duration--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L132A: Glencoe, depressional---	None	None	None	None	None	None	None	None	None	None	None	None
Hamel, overwash	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
M-W. Water, miscellaneous												
U1A: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Udorthents, wet substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
U2A: Udorthents, wet substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
U3B: Udorthents (cut and fill land)	None	None	None	None	None	None	None	None	None	None	None	None
U4A: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Udipsamments (cut and fill land)-----	None	None	None	None	None	None	None	None	None	None	None	None
U5A: Urban land-----	None	None	None	Rare Extremely brief	Rare Extremely brief	Rare Extremely brief	None	None	None	None	None	None
Udorthents, wet substratum-----	None	None	None	Rare Extremely brief	Rare Extremely brief	Rare Extremely brief	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth

(Depth refers to the depth, in feet, of the water above the surface. See text for definitions of terms used in this table. Absence of an entry indicates that no estimate was made)

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D1B:												
Anoka, terrace--	None	None	None	None	None	None	None	None	None	None	None	None
Zimmerman, terrace-----	None	None	None	None	None	None	None	None	None	None	None	None
Kost-----	None	None	None	None	None	None	None	None	None	None	None	None
D1C:												
Anoka, terrace--	None	None	None	None	None	None	None	None	None	None	None	None
Zimmerman, terrace-----	None	None	None	None	None	None	None	None	None	None	None	None
Kost-----	None	None	None	None	None	None	None	None	None	None	None	None
D2A:												
Elkriver, rarely flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford, rarely flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Elkriver, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
D3A:												
Elkriver, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Fordum, frequently flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Winterfield, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D4A:												
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Almora-----	None	None	None	None	None	None	None	None	None	None	None	None
D4B:												
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Almora-----	None	None	None	None	None	None	None	None	None	None	None	None
D4C:												
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Almora-----	None	None	None	None	None	None	None	None	None	None	None	None
D5B:												
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Two Inlets-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D5C:												
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Two Inlets-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D5D:												
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Two Inlets-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
D6A:												
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D6B:												
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D6C:												
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D7A:												
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D7B:												
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D7C:												
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D8B:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Arvilla, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
D8C:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Corliss-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D8D:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Corliss-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	
D8E:												
Sandberg-----	None	None	None	None	None	None	None	None	None	None	None	None
Corliss-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D10A:												
Forada-----	None	None	None	None	None	None	None	None	None	None	None	None
Depressional soil-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D11A:												
Lindaas-----	None	None	None	None	None	None	None	None	None	None	None	None
Lindaas, sandy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Depressional soil-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
D12B:												
Bygland, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
Bygland, sandy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Lindaas-----	None	None	None	None	None	None	None	None	None	None	None	None
Depressional soil-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
D12C2:												
Bygland, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
Bygland, sandy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Lindaas-----	None	None	None	None	None	None	None	None	None	None	None	None
Depressional soil-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
D13A:												
Langola, terrace	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D13B:												
Langola, terrace	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
D15A:												
Seelyeville, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Markey, drained	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
D16A:												
Seelyeville, ponded-----	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Markey, ponded--	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Mineral soil, ponded-----	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D23A:												
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D24A:												
Sedgeville, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Elkriver, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
D25A:												
Soderville, terrace-----	None	None	None	None	None	None	None	None	None	None	None	None
Forada-----	None	None	None	None	None	None	None	None	None	None	None	None
D26A:												
Foldahl, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
D27A:												
Dorset, loamy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Southhaven-----	None	None	None	None	None	None	None	None	None	None	None	None
D28B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Bygland, MAP >25	None	None	None	None	None	None	None	None	None	None	None	None
Bygland, sandy substratum-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D29B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard, bedrock substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D30A:												
Seelyeville, surface drained	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Markey, surface drained-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Mineral soil, surface drained	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
D31A:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Isan-----	None	None	None	None	None	None	None	None	None	None	None	None
D33B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
D33C:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Dorset-----	None	None	None	None	None	None	None	None	None	None	None	None
Verndale, acid substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
D34B:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Hubbard-----	None	None	None	None	None	None	None	None	None	None	None	None
Mosford-----	None	None	None	None	None	None	None	None	None	None	None	None
D35A:												
Elkriver, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Fordum, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Udipsamments----	None	None	None	None	None	None	None	None	None	None	None	None
Winterfield, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
D37F:												
Dorset, bedrock substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
Rock outcrop.												
Hubbard, bedrock substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
D40A:												
Kratka, thick solum-----	None	None	None	None	None	None	None	None	None	None	None	None
Duelm-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L2E:												
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
Tomall-----	None	None	None	None	None	None	None	None	None	None	None	None
L3A:												
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L3B:												
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L3C:												
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Tomall-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L4B:												
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L4C:												
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L4D:												
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L11B:												
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
Kasota-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
L12A:												
Muskego, frequently flooded-----	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.5
Blue Earth, frequently flooded-----	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.5
Houghton, frequently flooded-----	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.5
Oshawa, frequently flooded-----	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.5
L13A:												
Klossner, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L13A: Mineral soil, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Houghton, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
L14A: Houghton, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Klossner, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
L15A: Klossner, ponded	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Okoboji, ponded	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Glencoe, ponded	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L15A:												
Houghton, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
L16A:												
Muskego, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
Blue Earth, ponded-----	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
Houghton, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
Klossner, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
L17B:												
Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Moon-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
L18A:												
Shields-----	None	None	None	None	None	None	None	None	None	None	None	None
Lerdal-----	None	None	None	None	None	None	None	None	None	None	None	None
Mazaska-----	None	None	None	None	None	None	None	None	None	None	None	None

Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L19B:												
Moon-----	None	None	None	None	None	None	None	None	None	None	None	None
Finchford-----	None	None	None	None	None	None	None	None	None	None	None	None
L20B:												
Fedji, silty substratum----	None	None	None	None	None	None	None	None	None	None	None	None
Finchford-----	None	None	None	None	None	None	None	None	None	None	None	None
L21A:												
Canisteo-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
L22C2:												
Lester, eroded--	None	None	None	None	None	None	None	None	None	None	None	None
Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L22D2:												
Lester, eroded--	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
L22E:												
Lester, morainic	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L22F:												
Lester, morainic	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L23A:												
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Nessel-----	None	None	None	None	None	None	None	None	None	None	None	None
L24A:												
Glencoe, depressional---	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
L25A:												
Le Sueur-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
Angus-----	None	None	None	None	None	None	None	None	None	None	None	None
L26A:												
Shorewood-----	None	None	None	None	None	None	None	None	None	None	None	None
Minnetonka-----	None	None	None	None	None	None	None	None	None	None	None	None
Good Thunder----	None	None	None	None	None	None	None	None	None	None	None	None
L26B:												
Shorewood-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L29A: Suckercreek, frequently flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
L30A: Medo, surface drained-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Medo, drained---	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
L31A: Medo, ponded----	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Dassel, ponded--	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Biscay, ponded--	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0
Houghton, ponded	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 3.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.5	Frequent Very long Depth: 2.0



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L37B:												
Le Sueur-----	None	None	None	None	None	None	None	None	None	None	None	None
Cordova-----	None	None	None	None	None	None	None	None	None	None	None	None
L38A:												
Rushriver, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Oshawa, frequently flooded-----	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.5
Minneiska, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Alganssee, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
L39A:												
Minneiska, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Rushriver, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
Oshawa, frequently flooded-----	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 2.0	Frequent Very long Depth: 2.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.5	Frequent Very long Depth: 1.5
Alganssee, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L41F:												
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane-----	None	None	None	None	None	None	None	None	None	None	None	None
L42B:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42C:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42D:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42E:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L42F:												
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
Grays-----	None	None	None	None	None	None	None	None	None	None	None	None
L43A:												
Brouillett, occasionally flooded-----	None	None	None	None	None	None	None	None	None	None	None	None





Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L47B: Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
L47C: Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
L49A: Klossner, surface drained	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Klossner, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Mineral soil, drained-----	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
L50A: Houghton, surface drained	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Muskego, surface drained-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L55B:												
Rasset-----	None	None	None	None	None	None	None	None	None	None	None	None
Eden Prairie----	None	None	None	None	None	None	None	None	None	None	None	None
L55C:												
Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Hawick-----	None	None	None	None	None	None	None	None	None	None	None	None
Crowfork-----	None	None	None	None	None	None	None	None	None	None	None	None
L56A:												
Muskego, frequently flooded-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Klossner, frequently flooded-----	None	None	Frequent Long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Long Depth: 1.0	Frequent Brief Depth: 0.5	None	None	None	None	None	None
Suckercreek, frequently flooded-----	None	None	None	None	None	None	None	None	None	None	None	None
L58B:												
Koronis-----	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
Gotham-----	None	None	None	None	None	None	None	None	None	None	None	None
L58C2:												
Koronis, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley, eroded	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L61C2:												
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L61D2:												
Lester, eroded--	None	None	None	None	None	None	None	None	None	None	None	None
Metea, eroded---	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L61E:												
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Metea-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
L62B:												
Koronis-----	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L62C2:												
Koronis, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kingsley, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Malardi, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None



Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
L70D2:												
Lester, eroded--	None	None	None	None	None	None	None	None	None	None	None	None
Malardi, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
L70E:												
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Malardi-----	None	None	None	None	None	None	None	None	None	None	None	None
Terril-----	None	None	None	None	None	None	None	None	None	None	None	None
Hamel-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
L71C:												
Metea-----	None	None	None	None	None	None	None	None	None	None	None	None
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Moon-----	None	None	None	None	None	None	None	None	None	None	None	None
L72A:												
Lundlake, depressional---	None	None	Frequent Long Depth: 0.5	Frequent Brief Depth: 1.0	None	None	None	None	None	None	None	None
Forestcity-----	None	None	None	None	None	None	None	None	None	None	None	None
L110E:												
Lester-----	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton-----	None	None	None	None	None	None	None	None	None	None	None	None
Cokato-----	None	None	None	None	None	None	None	None	None	None	None	None
Belview-----	None	None	None	None	None	None	None	None	None	None	None	None





Table 22.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	February	March	April	May	June	July	August	September	October	November	December
U1A: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Udorthents, wet substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
U2A: Udorthents, wet substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
U3B: Udorthents (cut and fill land)	None	None	None	None	None	None	None	None	None	None	None	None
U4A: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Udipsamments (cut and fill land)-----	None	None	None	None	None	None	None	None	None	None	None	None
U5A: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Udorthents, wet substratum-----	None	None	None	None	None	None	None	None	None	None	None	None
U6B: Urban land-----	None	None	None	None	None	None	None	None	None	None	None	None
Udorthents (cut and fill land)	None	None	None	None	None	None	None	None	None	None	None	None
W. Water												

Table 23.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D1B:								
Anoka, terrace-----	55	---	>80	---	---	Moderate	Low	Moderate
Zimmerman, terrace----	40	---	>80	---	---	Low	Low	Moderate
Kost-----	5	---	>80	---	---	Low	Low	Moderate
D1C:								
Anoka, terrace-----	45	---	>80	---	---	Moderate	Low	Moderate
Zimmerman, terrace----	45	---	>80	---	---	Low	Low	Moderate
Kost-----	10	---	>80	---	---	Low	Low	Moderate
D2A:								
Elkriver, rarely flooded-----	85	---	>80	---	---	Moderate	Moderate	Low
Mosford, rarely flooded	10	---	>80	---	---	Low	Low	Moderate
Elkriver, occasionally flooded-----	5	---	>80	---	---	Moderate	Moderate	Low
D3A:								
Elkriver, occasionally flooded-----	80	---	>80	---	---	Moderate	Moderate	Low
Fordum, frequently flooded-----	15	---	>80	---	---	High	High	Low
Winterfield, occasionally flooded--	5	---	>80	---	---	Moderate	Moderate	Moderate
D4A:								
Dorset-----	90	---	>80	---	---	Moderate	Low	Low
Verndale, acid substratum-----	8	---	>80	---	---	Moderate	Low	Moderate
Almora-----	2	---	>80	---	---	Moderate	Low	Low
D4B:								
Dorset-----	85	---	>80	---	---	Moderate	Low	Low
Verndale, acid substratum-----	10	---	>80	---	---	Moderate	Low	Moderate
Almora-----	5	---	>80	---	---	Moderate	Low	Low
D4C:								
Dorset-----	75	---	>80	---	---	Moderate	Low	Low
Verndale, acid substratum-----	15	---	>80	---	---	Moderate	Low	Moderate
Almora-----	10	---	>80	---	---	Moderate	Low	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D5B:								
Dorset-----	65	---	>80	---	---	Moderate	Low	Low
Two Inlets-----	25	---	>80	---	---	Low	Low	Low
Verndale, acid substratum-----	5	---	>80	---	---	Moderate	Low	Moderate
Southhaven-----	5	---	>80	---	---	Moderate	Moderate	Low
D5C:								
Dorset-----	55	---	>80	---	---	Moderate	Low	Low
Two Inlets-----	30	---	>80	---	---	Low	Low	Low
Southhaven-----	10	---	>80	---	---	Moderate	Moderate	Low
Verndale, acid substratum-----	5	---	>80	---	---	Moderate	Low	Moderate
D5D:								
Dorset-----	50	---	>80	---	---	Moderate	Low	Low
Two Inlets-----	35	---	>80	---	---	Low	Low	Low
Southhaven-----	10	---	>80	---	---	Moderate	Moderate	Low
Verndale, acid substratum-----	5	---	>80	---	---	Moderate	Low	Moderate
D6A:								
Verndale, acid substratum-----	90	---	>80	---	---	Moderate	Low	Moderate
Dorset-----	7	---	>80	---	---	Moderate	Low	Low
Hubbard-----	3	---	>80	---	---	Low	Low	Moderate
D6B:								
Verndale, acid substratum-----	85	---	>80	---	---	Moderate	Low	Moderate
Dorset-----	10	---	>80	---	---	Moderate	Low	Low
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
D6C:								
Verndale, acid substratum-----	80	---	>80	---	---	Moderate	Low	Moderate
Dorset-----	15	---	>80	---	---	Moderate	Low	Low
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
D7A:								
Hubbard-----	95	---	>80	---	---	Low	Low	Moderate
Mosford-----	5	---	>80	---	---	Low	Low	Moderate
D7B:								
Hubbard-----	90	---	>80	---	---	Low	Low	Moderate
Mosford-----	10	---	>80	---	---	Low	Low	Moderate

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D7C:								
Hubbard-----	80	---	>80	---	---	Low	Low	Moderate
Sandberg-----	10	---	>80	---	---	Low	Moderate	Low
Mosford-----	10	---	>80	---	---	Low	Low	Moderate
D8B:								
Sandberg-----	95	---	>80	---	---	Low	Moderate	Low
Arvilla, MAP >25-----	5	---	>80	---	---	Moderate	Low	Low
D8C:								
Sandberg-----	80	---	>80	---	---	Low	Moderate	Low
Corliss-----	15	---	>80	---	---	Low	Low	Low
Southhaven-----	5	---	>80	---	---	Moderate	Moderate	Low
D8D:								
Sandberg-----	80	---	>80	---	---	Low	Moderate	Low
Corliss-----	10	---	>80	---	---	Low	Low	Low
Southhaven-----	10	---	>80	---	---	Moderate	Moderate	Low
D8E:								
Sandberg-----	80	---	>80	---	---	Low	Moderate	Low
Corliss-----	10	---	>80	---	---	Low	Low	Low
Southhaven-----	10	---	>80	---	---	Moderate	Moderate	Low
D10A:								
Forada-----	95	---	>80	---	---	High	High	Low
Depressional soil-----	5	---	>80	---	---	High	High	Low
D11A:								
Lindaas-----	80	---	>80	---	---	High	High	Low
Lindaas, sandy substratum-----	10	---	>80	---	---	High	High	Low
Depressional soil-----	10	---	>80	---	---	High	High	Low
D12B:								
Bygland, MAP >25-----	70	---	>80	---	---	High	High	Low
Bygland, sandy substratum-----	15	---	>80	---	---	High	High	Low
Lindaas-----	10	---	>80	---	---	High	High	Low
Depressional soil-----	5	---	>80	---	---	High	High	Low
D12C2:								
Bygland, MAP >25-----	70	---	>80	---	---	High	High	Low
Bygland, sandy substratum-----	15	---	>80	---	---	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D12C2:								
Lindaas-----	10	---	>80	---	---	High	High	Low
Depressional soil-----	5	---	>80	---	---	High	High	Low
D13A:								
Langola, terrace-----	85	---	>80	---	---	Low	Moderate	Moderate
Duelm-----	10	---	>80	---	---	Moderate	Low	Moderate
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
D13B:								
Langola, terrace-----	85	---	>80	---	---	Low	Moderate	Moderate
Hubbard-----	10	---	>80	---	---	Low	Low	Moderate
Duelm-----	5	---	>80	---	---	Moderate	Low	Moderate
D15A:								
Seelyeville, drained---	65	---	>80	---	66-78	High	High	Moderate
Markey, drained-----	25	---	>80	8-22	16-44	High	High	Moderate
Mineral soil, drained--	10	---	>80	---	---	Moderate	High	Moderate
D16A:								
Seelyeville, ponded---	45	---	>80	---	66-78	High	High	Moderate
Markey, ponded-----	45	---	>80	8-22	16-44	High	High	Moderate
Mineral soil, ponded---	10	---	>80	---	---	Moderate	High	Moderate
D17A:								
Duelm-----	90	---	>80	---	---	Moderate	Low	Moderate
Isan-----	8	---	>80	---	---	Moderate	High	Moderate
Hubbard-----	2	---	>80	---	---	Low	Low	Moderate
D18B:								
Braham, terrace-----	85	---	>80	---	---	Low	Moderate	Moderate
Duelm-----	15	---	>80	---	---	Moderate	Low	Moderate
D19A:								
Fordum, frequently flooded-----	65	---	>80	---	---	High	High	Low
Winterfield, frequently flooded-----	25	---	>80	---	---	Moderate	Moderate	Moderate
Fordum, occasionally flooded-----	10	---	>80	---	---	High	High	Low
D20A:								
Isan-----	85	---	>80	---	---	Moderate	High	Moderate
Isan, depressional-----	10	---	>80	---	---	Moderate	High	Moderate
Duelm-----	5	---	>80	---	---	Moderate	Low	Moderate

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D21A:								
Isan, depressional-----	85	---	>80	---	---	Moderate	High	Moderate
Isan-----	15	---	>80	---	---	Moderate	High	Moderate
D23A:								
Southhaven-----	90	---	>80	---	---	Moderate	Moderate	Low
Dorset-----	5	---	>80	---	---	Moderate	Low	Low
Mosford-----	5	---	>80	---	---	Low	Low	Moderate
D24A:								
Sedgeville, occasionally flooded--	85	---	>80	---	---	High	High	Moderate
Elkriver, occasionally flooded-----	15	---	>80	---	---	Moderate	Moderate	Low
D25A:								
Soderville, terrace-----	90	---	>80	---	---	Moderate	Low	Moderate
Forada-----	10	---	>80	---	---	High	High	Low
D26A:								
Foldahl, MAP >25-----	90	---	>80	---	---	Low	Moderate	Moderate
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
Isan-----	5	---	>80	---	---	Moderate	High	Moderate
D27A:								
Dorset, loamy substratum-----	80	---	>80	---	---	Moderate	Low	Low
Dorset-----	15	---	>80	---	---	Moderate	Low	Low
Southhaven-----	5	---	>80	---	---	Moderate	Moderate	Low
D28B:								
Urban land-----	75	---	---	---	---	---	---	---
Bygland, MAP >25-----	20	---	>80	---	---	High	High	Low
Bygland, sandy substratum-----	5	---	>80	---	---	High	High	Low
D29B:								
Urban land-----	70	---	---	---	---	---	---	---
Hubbard, bedrock substratum-----	20	Bedrock (lithic)	40-80	---	---	Low	Low	Moderate
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
Mosford-----	5	---	>80	---	---	Low	Low	Moderate
D30A:								
Seelyeville, surface drained-----	45	---	>80	---	66-78	High	High	Moderate

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D30A: Markey, surface drained	45	---	>80	8-22	16-44	High	High	Moderate
Mineral soil, surface drained-----	10	---	>80	---	---	Moderate	High	Moderate
D31A: Urban land-----	70	---	---	---	---	---	---	---
Duelm-----	20	---	>80	---	---	Moderate	Low	Moderate
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
Isan-----	5	---	>80	---	---	Moderate	High	Moderate
D33B: Urban land-----	70	---	---	---	---	---	---	---
Dorset-----	20	---	>80	---	---	Moderate	Low	Low
Verndale, acid substratum-----	5	---	>80	---	---	Moderate	Low	Moderate
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
D33C: Urban land-----	70	---	---	---	---	---	---	---
Dorset-----	20	---	>80	---	---	Moderate	Low	Low
Verndale, acid substratum-----	5	---	>80	---	---	Moderate	Low	Moderate
Hubbard-----	5	---	>80	---	---	Low	Low	Moderate
D34B: Urban land-----	75	---	---	---	---	---	---	---
Hubbard-----	20	---	>80	---	---	Low	Low	Moderate
Mosford-----	5	---	>80	---	---	Low	Low	Moderate
D35A: Elkriver, occasionally flooded-----	70	---	>80	---	---	Moderate	Moderate	Low
Fordum, occasionally flooded-----	20	---	>80	---	---	High	High	Low
Udipsamments-----	5	---	---	---	---	---	---	---
Winterfield, occasionally flooded--	5	---	>80	---	---	Moderate	Moderate	Moderate
D37F: Dorset, bedrock substratum-----	70	Bedrock (lithic)	40-80	---	---	Moderate	Low	Low
Rock outcrop-----	20	Bedrock (lithic)	---	---	---	---	---	---
Hubbard, bedrock substratum-----	10	Bedrock (lithic)	40-80	---	---	Low	Low	Moderate

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
D40A:								
Kratka, thick solum----	80	---	>80	---	---	Moderate	High	Low
Duelm-----	10	---	>80	---	---	Moderate	Low	Moderate
Foldahl, MAP >25-----	10	---	>80	---	---	Low	Moderate	Moderate
D41C:								
Urban land-----	75	---	---	---	---	---	---	---
Waukon-----	20	---	>80	---	---	Moderate	Low	Low
Braham-----	5	---	>80	---	---	Low	Moderate	Moderate
D43A:								
Gonvick, terrace-----	85	---	>80	---	---	High	Moderate	Low
Braham-----	15	---	>80	---	---	Low	Moderate	Moderate
GP.								
Pits, gravel- Udipsamments								
L2B:								
Malardi-----	65	---	>80	---	---	Moderate	Low	Low
Hawick-----	25	---	>80	---	---	Low	Low	Low
Rasset-----	5	---	>80	---	---	Moderate	Low	Low
Eden Prairie-----	5	---	>80	---	---	Moderate	Low	Low
L2C:								
Malardi-----	60	---	>80	---	---	Moderate	Low	Low
Hawick-----	25	---	>80	---	---	Low	Low	Low
Tomall-----	10	---	>80	---	---	Moderate	High	Low
Crowfork-----	5	---	>80	---	---	Low	Low	Moderate
L2D:								
Malardi-----	55	---	>80	---	---	Moderate	Low	Low
Hawick-----	30	---	>80	---	---	Low	Low	Low
Tomall-----	10	---	>80	---	---	Moderate	High	Low
Crowfork-----	5	---	>80	---	---	Low	Low	Moderate
L2E:								
Malardi-----	55	---	>80	---	---	Moderate	Low	Low
Hawick-----	30	---	>80	---	---	Low	Low	Low
Tomall-----	15	---	>80	---	---	Moderate	High	Low
L3A:								
Rasset-----	90	---	>80	---	---	Moderate	Low	Low
Malardi-----	8	---	>80	---	---	Moderate	Low	Low
Eden Prairie-----	2	---	>80	---	---	Moderate	Low	Low



Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L3B:								
Rasset-----	80	---	>80	---	---	Moderate	Low	Low
Malardi-----	15	---	>80	---	---	Moderate	Low	Low
Eden Prairie-----	5	---	>80	---	---	Moderate	Low	Low
L3C:								
Rasset-----	75	---	>80	---	---	Moderate	Low	Low
Malardi-----	10	---	>80	---	---	Moderate	Low	Low
Tomall-----	10	---	>80	---	---	Moderate	High	Low
Eden Prairie-----	5	---	>80	---	---	Moderate	Low	Low
L4B:								
Crowfork-----	90	---	>80	---	---	Low	Low	Moderate
Eden Prairie-----	10	---	>80	---	---	Moderate	Low	Low
L4C:								
Crowfork-----	90	---	>80	---	---	Low	Low	Moderate
Eden Prairie-----	10	---	>80	---	---	Moderate	Low	Low
L4D:								
Crowfork-----	85	---	>80	---	---	Low	Low	Moderate
Eden Prairie-----	15	---	>80	---	---	Moderate	Low	Low
L6A:								
Biscay-----	85	---	>80	---	---	High	High	Low
Biscay, depressional---	10	---	>80	---	---	High	High	Low
Mayer-----	5	---	>80	---	---	High	High	Low
L7A:								
Biscay, depressional---	80	---	>80	---	---	High	High	Low
Biscay-----	15	---	>80	---	---	High	High	Low
Mayer-----	5	---	>80	---	---	High	High	Low
L8A:								
Darfur-----	95	---	>80	---	---	High	High	Low
Dassel-----	5	---	>80	---	---	High	High	Low
L9A:								
Minnetonka-----	90	---	>80	---	---	High	High	Low
Depressional soil-----	10	---	>80	---	---	High	High	Low
L10B:								
Kasota-----	80	---	>80	---	---	High	High	Low
Eden Prairie-----	10	---	>80	---	---	Moderate	Low	Low
Wet soil in swales-----	10	---	>80	---	---	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L11B:								
Grays-----	90	---	>80	---	---	High	Moderate	Low
Kasota-----	5	---	>80	---	---	High	High	Low
Crowfork-----	5	---	>80	---	---	Low	Low	Moderate
L12A:								
Muskego, frequently flooded-----	30	---	>80	---	35-45	High	Moderate	Moderate
Blue Earth, frequently flooded-----	30	---	>80	---	---	High	High	Low
Houghton, frequently flooded-----	30	---	>80	6-18	55-60	High	High	Moderate
Oshawa, frequently flooded-----	10	---	>80	---	---	High	High	Low
L13A:								
Klossner, drained-----	80	---	>80	2-4	25-32	High	High	Moderate
Mineral soil, drained--	15	---	>80	---	---	High	High	Low
Houghton, drained-----	5	---	>80	6-18	55-60	High	High	Moderate
L14A:								
Houghton, drained-----	80	---	>80	6-18	55-60	High	High	Moderate
Klossner, drained-----	10	---	>80	2-4	25-32	High	High	Moderate
Mineral soil, drained--	10	---	>80	---	---	High	High	Low
L15A:								
Klossner, ponded-----	30	---	>80	2-4	25-32	High	High	Moderate
Okoboji, ponded-----	30	---	>80	---	---	High	High	Low
Glencoe, ponded-----	30	---	>80	---	---	High	High	Low
Houghton, ponded-----	10	---	>80	6-18	55-60	High	High	Moderate
L16A:								
Muskego, ponded-----	30	---	>80	---	35-45	High	Moderate	Moderate
Blue Earth, ponded-----	30	---	>80	---	---	High	High	Low
Houghton, ponded-----	30	---	>80	6-18	55-60	High	High	Moderate
Klossner, ponded-----	10	---	>80	2-4	25-32	High	High	Moderate
L17B:								
Angus-----	50	---	>80	---	---	Moderate	Low	Moderate
Malardi-----	30	---	>80	---	---	Moderate	Low	Low
Moon-----	10	---	>80	---	---	Low	Moderate	Moderate
Cordova-----	10	---	>80	---	---	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L18A:								
Shields-----	85	---	>80	---	---	High	High	Low
Lerdal-----	10	---	>80	---	---	High	High	High
Mazaska-----	5	---	>80	---	---	High	High	Moderate
L19B:								
Moon-----	85	---	>80	---	---	Low	Moderate	Moderate
Finchford-----	15	---	>80	---	---	Low	Low	Low
L20B:								
Fedji, silty substratum	85	---	>80	---	---	Low	Low	Moderate
Finchford-----	15	---	>80	---	---	Low	Low	Low
L21A:								
Canisteo-----	80	---	>80	---	---	High	High	Low
Cordova-----	15	---	>80	---	---	High	High	Low
Glencoe-----	5	---	>80	---	---	High	High	Low
L22C2:								
Lester, eroded-----	70	---	>80	---	---	Moderate	Low	Moderate
Angus-----	15	---	>80	---	---	Moderate	Low	Moderate
Terril-----	12	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	3	---	>80	---	---	High	High	Low
L22D2:								
Lester, eroded-----	80	---	>80	---	---	Moderate	Low	Moderate
Terril-----	10	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	5	---	>80	---	---	High	High	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
L22E:								
Lester, morainic-----	75	---	>80	---	---	Moderate	Low	Moderate
Terril-----	15	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	5	---	>80	---	---	High	High	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
L22F:								
Lester, morainic-----	75	---	>80	---	---	Moderate	Low	Moderate
Terril-----	10	---	>80	---	---	Moderate	Moderate	Low
Ridgeton-----	10	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	5	---	>80	---	---	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L23A:								
Cordova-----	85	---	>80	---	---	High	High	Low
Glencoe-----	10	---	>80	---	---	High	High	Low
Nessel-----	5	---	>80	---	---	High	Moderate	Moderate
L24A:								
Glencoe, depressional--	90	---	>80	---	---	High	High	Low
Cordova-----	10	---	>80	---	---	High	High	Low
L25A:								
Le Sueur-----	80	---	>80	---	---	High	High	Low
Cordova-----	15	---	>80	---	---	High	High	Low
Angus-----	5	---	>80	---	---	Moderate	Low	Moderate
L26A:								
Shorewood-----	85	---	>80	---	---	High	High	Moderate
Minnetonka-----	10	---	>80	---	---	High	High	Low
Good Thunder-----	5	---	>80	---	---	High	High	Moderate
L26B:								
Shorewood-----	90	---	>80	---	---	High	High	Moderate
Good Thunder-----	5	---	>80	---	---	High	High	Moderate
Minnetonka-----	5	---	>80	---	---	High	High	Low
L26C2:								
Shorewood, eroded-----	95	---	>80	---	---	High	High	Moderate
Minnetonka-----	5	---	>80	---	---	High	High	Low
L27A:								
Suckercreek, frequently flooded-----	85	---	>80	---	---	High	High	Low
Suckercreek, occasionally flooded--	10	---	>80	---	---	High	High	Low
Hanlon, occasionally flooded-----	5	---	>80	---	---	Moderate	Moderate	Low
L28A:								
Suckercreek, occasionally flooded--	80	---	>80	---	---	High	High	Low
Suckercreek, frequently flooded-----	10	---	>80	---	---	High	High	Low
Hanlon, occasionally flooded-----	10	---	>80	---	---	Moderate	Moderate	Low
L29A:								
Hanlon, occasionally flooded-----	80	---	>80	---	---	Moderate	Moderate	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L29A: Suckercreek, occasionally flooded--	10	---	>80	---	---	High	High	Low
Suckercreek, frequently flooded-----	10	---	>80	---	---	High	High	Low
L30A: Medo, surface drained--	65	---	>80	8-22	16-44	High	High	Moderate
Medo, drained-----	20	---	>80	8-22	16-44	High	High	Moderate
Mineral soil, drained--	15	---	>80	---	---	High	High	Low
L31A: Medo, ponded-----	30	---	>80	8-22	16-44	High	High	Moderate
Dassel, ponded-----	30	---	>80	---	---	High	High	Low
Biscay, ponded-----	30	---	>80	---	---	High	High	Low
Houghton, ponded-----	5	---	>80	6-18	55-60	High	High	Moderate
Muskego, ponded-----	5	---	>80	---	35-45	High	Moderate	Moderate
L32D: Hawick-----	75	---	>80	---	---	Low	Low	Low
Crowfork-----	15	---	>80	---	---	Low	Low	Moderate
Tomall-----	10	---	>80	---	---	Moderate	High	Low
L32F: Hawick-----	75	---	>80	---	---	Low	Low	Low
Crowfork-----	15	---	>80	---	---	Low	Low	Moderate
Tomall-----	10	---	>80	---	---	Moderate	High	Low
L35A: Lerdal-----	80	---	>80	---	---	High	High	High
Mazaska-----	10	---	>80	---	---	High	High	Moderate
Cordova-----	5	---	>80	---	---	High	High	Low
Le Sueur-----	5	---	>80	---	---	High	High	Low
L36A: Hamel, overwash-----	50	---	>80	---	---	High	High	Low
Hamel-----	43	---	>80	---	---	High	High	Low
Terril-----	5	---	>80	---	---	Moderate	Moderate	Low
Glencoe-----	2	---	>80	---	---	High	High	Low
L37B: Angus, morainic-----	80	---	>80	---	---	Moderate	Low	Moderate
Angus, eroded-----	10	---	>80	---	---	Moderate	Low	Moderate

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L37B:								
Le Sueur-----	5	---	>80	---	---	High	High	Low
Cordova-----	5	---	>80	---	---	High	High	Low
L38A:								
Rushriver, occasionally flooded-----	75	---	>80	---	---	High	Moderate	Low
Oshawa, frequently flooded-----	15	---	>80	---	---	High	High	Low
Minneiska, occasionally flooded-----	5	---	>80	---	---	Moderate	Moderate	Low
Alganssee, occasionally flooded-----	5	---	>80	---	---	Moderate	Low	Low
L39A:								
Minneiska, occasionally flooded-----	70	---	>80	---	---	Moderate	Moderate	Low
Rushriver, occasionally flooded-----	15	---	>80	---	---	High	Moderate	Low
Oshawa, frequently flooded-----	10	---	>80	---	---	High	High	Low
Alganssee, occasionally flooded-----	5	---	>80	---	---	Moderate	Low	Low
L40B:								
Angus-----	45	---	>80	---	---	Moderate	Low	Moderate
Kilkenny-----	40	---	>80	---	---	High	Moderate	Moderate
Lerdal-----	10	---	>80	---	---	High	High	High
Mazaska-----	5	---	>80	---	---	High	High	Moderate
L41C2:								
Lester, eroded-----	45	---	>80	---	---	Moderate	Low	Moderate
Kilkenny, eroded-----	40	---	>80	---	---	High	Moderate	Moderate
Terril-----	10	---	>80	---	---	Moderate	Moderate	Low
Derrynane-----	5	---	>80	---	---	High	High	Low
L41D2:								
Lester, eroded-----	45	---	>80	---	---	Moderate	Low	Moderate
Kilkenny, eroded-----	35	---	>80	---	---	High	Moderate	Moderate
Terril-----	10	---	>80	---	---	Moderate	Moderate	Low
Derrynane-----	5	---	>80	---	---	High	High	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L41E:								
Lester-----	45	---	>80	---	---	Moderate	Low	Moderate
Kilkenny-----	40	---	>80	---	---	High	Moderate	Moderate
Terril-----	5	---	>80	---	---	Moderate	Moderate	Low
Derrynane-----	5	---	>80	---	---	High	High	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
L41F:								
Lester-----	45	---	>80	---	---	Moderate	Low	Moderate
Kilkenny-----	35	---	>80	---	---	High	Moderate	Moderate
Ridgeton-----	10	---	>80	---	---	Moderate	Moderate	Low
Terril-----	5	---	>80	---	---	Moderate	Moderate	Low
Derrynane-----	5	---	>80	---	---	High	High	Low
L42B:								
Kingsley-----	70	---	>80	---	---	Low	Low	Moderate
Gotham-----	25	---	>80	---	---	Low	Low	Moderate
Grays-----	5	---	>80	---	---	High	Moderate	Low
L42C:								
Kingsley-----	70	---	>80	---	---	Low	Low	Moderate
Gotham-----	25	---	>80	---	---	Low	Low	Moderate
Grays-----	5	---	>80	---	---	High	Moderate	Low
L42D:								
Kingsley-----	70	---	>80	---	---	Low	Low	Moderate
Gotham-----	25	---	>80	---	---	Low	Low	Moderate
Grays-----	5	---	>80	---	---	High	Moderate	Low
L42E:								
Kingsley-----	70	---	>80	---	---	Low	Low	Moderate
Gotham-----	25	---	>80	---	---	Low	Low	Moderate
Grays-----	5	---	>80	---	---	High	Moderate	Low
L42F:								
Kingsley-----	70	---	>80	---	---	Low	Low	Moderate
Gotham-----	25	---	>80	---	---	Low	Low	Moderate
Grays-----	5	---	>80	---	---	High	Moderate	Low
L43A:								
Brouillett, occasionally flooded--	80	---	>80	---	---	Moderate	High	Low
Minneiska, occasionally flooded-----	10	---	>80	---	---	Moderate	Moderate	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L43A: Rushriver, occasionally flooded-----	10	---	>80	---	---	High	Moderate	Low
L44A: Nessel-----	85	---	>80	---	---	High	Moderate	Moderate
Cordova-----	10	---	>80	---	---	High	High	Low
Angus-----	5	---	>80	---	---	Moderate	Low	Moderate
L45A: Dundas-----	65	---	>80	---	---	High	High	Moderate
Cordova-----	25	---	>80	---	---	High	High	Low
Nessel-----	5	---	>80	---	---	High	Moderate	Moderate
Glencoe-----	5	---	>80	---	---	High	High	Low
L46A: Tomall-----	80	---	>80	---	---	Moderate	High	Low
Rasset-----	10	---	>80	---	---	Moderate	Low	Low
Malardi-----	10	---	>80	---	---	Moderate	Low	Low
L47A: Eden Prairie-----	85	---	>80	---	---	Moderate	Low	Low
Malardi-----	10	---	>80	---	---	Moderate	Low	Low
Rasset-----	5	---	>80	---	---	Moderate	Low	Low
L47B: Eden Prairie-----	80	---	>80	---	---	Moderate	Low	Low
Malardi-----	10	---	>80	---	---	Moderate	Low	Low
Rasset-----	10	---	>80	---	---	Moderate	Low	Low
L47C: Eden Prairie-----	70	---	>80	---	---	Moderate	Low	Low
Malardi-----	10	---	>80	---	---	Moderate	Low	Low
Rasset-----	10	---	>80	---	---	Moderate	Low	Low
Hawick-----	10	---	>80	---	---	Low	Low	Low
L49A: Klossner, surface drained-----	65	---	>80	2-4	25-32	High	High	Moderate
Klossner, drained-----	20	---	>80	2-4	25-32	High	High	Moderate
Mineral soil, drained--	15	---	>80	---	---	High	High	Low
L50A: Houghton, surface drained-----	40	---	>80	6-18	55-60	High	High	Moderate



Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L50A: Muskego, surface drained-----	40	---	>80	---	35-45	High	Moderate	Moderate
Klossner, drained-----	10	---	>80	2-4	25-32	High	High	Moderate
Mineral soil, drained--	10	---	>80	---	---	High	High	Low
L52C: Urban land-----	75	---	---	---	---	---	---	---
Lester-----	20	---	>80	---	---	Moderate	Low	Moderate
Kingsley-----	5	---	>80	---	---	Low	Low	Moderate
L52E: Urban land-----	75	---	---	---	---	---	---	---
Lester-----	20	---	>80	---	---	Moderate	Low	Moderate
Kingsley-----	5	---	>80	---	---	Low	Low	Moderate
L53B: Urban land-----	70	---	---	---	---	---	---	---
Moon-----	20	---	>80	---	---	Low	Moderate	Moderate
Lester-----	10	---	>80	---	---	Moderate	Low	Moderate
L54A: Urban land-----	70	---	---	---	---	---	---	---
Dundas-----	20	---	>80	---	---	High	High	Moderate
Nessel-----	10	---	>80	---	---	High	Moderate	Moderate
L55B: Urban land-----	70	---	---	---	---	---	---	---
Malardi-----	20	---	>80	---	---	Moderate	Low	Low
Rasset-----	5	---	>80	---	---	Moderate	Low	Low
Eden Prairie-----	5	---	>80	---	---	Moderate	Low	Low
L55C: Urban land-----	70	---	---	---	---	---	---	---
Malardi-----	20	---	>80	---	---	Moderate	Low	Low
Hawick-----	5	---	>80	---	---	Low	Low	Low
Crowfork-----	5	---	>80	---	---	Low	Low	Moderate
L56A: Muskego, frequently flooded-----	45	---	>80	---	35-45	High	Moderate	Moderate
Klossner, frequently flooded-----	45	---	>80	2-4	25-32	High	High	Moderate
Suckercreek, frequently flooded-----	10	---	>80	---	---	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L58B:								
Koronis-----	60	---	>80	---	---	Moderate	Low	Moderate
Kingsley-----	25	---	>80	---	---	Low	Low	Moderate
Forestcity-----	10	---	>80	---	---	High	Moderate	Low
Gotham-----	5	---	>80	---	---	Low	Low	Moderate
L58C2:								
Koronis, eroded-----	55	---	>80	---	---	Moderate	Low	Moderate
Kingsley, eroded-----	25	---	>80	---	---	Low	Low	Moderate
Forestcity-----	15	---	>80	---	---	High	Moderate	Low
Gotham-----	5	---	>80	---	---	Low	Low	Moderate
L58D2:								
Koronis, eroded-----	55	---	>80	---	---	Moderate	Low	Moderate
Kingsley, eroded-----	25	---	>80	---	---	Low	Low	Moderate
Forestcity-----	15	---	>80	---	---	High	Moderate	Low
Gotham-----	5	---	>80	---	---	Low	Low	Moderate
L58E:								
Koronis-----	55	---	>80	---	---	Moderate	Low	Moderate
Kingsley-----	25	---	>80	---	---	Low	Low	Moderate
Forestcity-----	15	---	>80	---	---	High	Moderate	Low
Gotham-----	5	---	>80	---	---	Low	Low	Moderate
L59A:								
Forestcity-----	70	---	>80	---	---	High	Moderate	Low
Lundlake, depressional	25	---	>80	---	---	High	High	Low
Marcellon-----	5	---	>80	---	---	High	High	Moderate
L60B:								
Angus-----	65	---	>80	---	---	Moderate	Low	Moderate
Moon-----	30	---	>80	---	---	Low	Moderate	Moderate
Hamel-----	5	---	>80	---	---	High	High	Low
L61C2:								
Lester, eroded-----	60	---	>80	---	---	Moderate	Low	Moderate
Metea, eroded-----	25	---	>80	---	---	Low	Moderate	Moderate
Terril-----	12	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	3	---	>80	---	---	High	High	Low
L61D2:								
Lester, eroded-----	55	---	>80	---	---	Moderate	Low	Moderate
Metea, eroded-----	25	---	>80	---	---	Low	Moderate	Moderate

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L61D2:								
Terril-----	12	---	>80	---	---	Moderate	Moderate	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	3	---	>80	---	---	High	High	Low
L61E:								
Lester-----	55	---	>80	---	---	Moderate	Low	Moderate
Metea-----	25	---	>80	---	---	Low	Moderate	Moderate
Terril-----	10	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	5	---	>80	---	---	High	High	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
L62B:								
Koronis-----	55	---	>80	---	---	Moderate	Low	Moderate
Kingsley-----	20	---	>80	---	---	Low	Low	Moderate
Malardi-----	20	---	>80	---	---	Moderate	Low	Low
Forestcity-----	5	---	>80	---	---	High	Moderate	Low
L62C2:								
Koronis, eroded-----	40	---	>80	---	---	Moderate	Low	Moderate
Kingsley, eroded-----	25	---	>80	---	---	Low	Low	Moderate
Malardi, eroded-----	25	---	>80	---	---	Moderate	Low	Low
Forestcity-----	10	---	>80	---	---	High	Moderate	Low
L62D2:								
Koronis, eroded-----	40	---	>80	---	---	Moderate	Low	Moderate
Kingsley, eroded-----	25	---	>80	---	---	Low	Low	Moderate
Malardi, eroded-----	25	---	>80	---	---	Moderate	Low	Low
Forestcity-----	10	---	>80	---	---	High	Moderate	Low
L62E:								
Koronis-----	40	---	>80	---	---	Moderate	Low	Moderate
Kingsley-----	25	---	>80	---	---	Low	Low	Moderate
Malardi-----	25	---	>80	---	---	Moderate	Low	Low
Forestcity-----	10	---	>80	---	---	High	Moderate	Low
L64A:								
Tadkee-----	50	---	>80	---	---	High	High	Low
Tadkee, depressional---	36	---	>80	---	---	High	High	Moderate
Better drained soil----	8	---	>80	---	---	Moderate	Low	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L64A:								
Granby-----	4	---	>80	---	---	High	High	Low
Less sandy soil-----	2	---	>80	---	---	High	High	Low
L70C2:								
Lester, eroded-----	60	---	>80	---	---	Moderate	Low	Moderate
Malardi, eroded-----	25	---	>80	---	---	Moderate	Low	Low
Terril-----	12	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	3	---	>80	---	---	High	High	Low
L70D2:								
Lester, eroded-----	55	---	>80	---	---	Moderate	Low	Moderate
Malardi, eroded-----	25	---	>80	---	---	Moderate	Low	Low
Terril-----	12	---	>80	---	---	Moderate	Moderate	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	3	---	>80	---	---	High	High	Low
L70E:								
Lester-----	55	---	>80	---	---	Moderate	Low	Moderate
Malardi-----	25	---	>80	---	---	Moderate	Low	Low
Terril-----	10	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	5	---	>80	---	---	High	High	Low
Ridgeton-----	5	---	>80	---	---	Moderate	Moderate	Low
L71C:								
Metea-----	80	---	>80	---	---	Low	Moderate	Moderate
Lester-----	15	---	>80	---	---	Moderate	Low	Moderate
Moon-----	5	---	>80	---	---	Low	Moderate	Moderate
L72A:								
Lundlake, depressional	90	---	>80	---	---	High	High	Low
Forestcity-----	10	---	>80	---	---	High	Moderate	Low
L110E:								
Lester-----	50	---	>80	---	---	Moderate	Low	Moderate
Ridgeton-----	30	---	>80	---	---	Moderate	Moderate	Low
Cokato-----	10	---	>80	---	---	Moderate	Low	Low
Belview-----	6	---	>80	---	---	Moderate	Low	Low
Hamel-----	2	---	>80	---	---	High	High	Low
Terril-----	2	---	>80	---	---	Moderate	Moderate	Low

Table 23.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
		Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
			In	In	In			
L110F:								
Lester-----	55	---	>80	---	---	Moderate	Low	Moderate
Ridgeton-----	30	---	>80	---	---	Moderate	Moderate	Low
Cokato-----	8	---	>80	---	---	Moderate	Low	Low
Belview-----	4	---	>80	---	---	Moderate	Low	Low
Terril-----	2	---	>80	---	---	Moderate	Moderate	Low
Hamel-----	1	---	>80	---	---	High	High	Low
L131A:								
Litchfield-----	85	---	>80	---	---	Moderate	Low	Low
Darfur-----	10	---	>80	---	---	High	High	Low
Crowfork-----	5	---	>80	---	---	Low	Low	Moderate
L132A:								
Hamel-----	50	---	>80	---	---	High	High	Low
Glencoe, depressiona--	30	---	>80	---	---	High	High	Low
Hamel, overwash-----	15	---	>80	---	---	High	High	Low
Terril-----	5	---	>80	---	---	Moderate	Moderate	Low
M-W. Water, miscellaneous								
U1A. Urban land-Udorthents, wet substratum								
U2A. Udorthents, wet substratum								
U3B. Udorthents (cut and fill land)								
U4A. Urban land-Udipsamments (cut and fill land)								
U5A. Urban land-Udorthents, wet substratum								
U6B. Urban land-Udorthents (cut and fill land)								
W. Water								



## References

---

American Association of State Highway and Transportation Officials (AASHTO). 2000. Standard specifications for transportation materials and methods of sampling and testing. 20th edition, 2 volumes.

American Society for Testing and Materials (ASTM). 2001. Standard classification of soils for engineering purposes. ASTM Standard D-2487.

Lueth, Robert A. 1974. Soil survey of Hennepin County, Minnesota. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the Minnesota Agricultural Experiment Station.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1998. Keys to Soil Taxonomy. 8th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

United States Department of Agriculture. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

United States Department of Agriculture. 1981. Land resource regions and major land resource areas of the United States. U.S. Department of Agriculture Handbook 296.

United States Department of Agriculture. 2003. National soil survey handbook, title 430-VI. [Online] Available: <http://soils.usda.gov/technical/handbook/>.





# Glossary

---

**Ablation till.** Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction in which a slope faces.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

**Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In

profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

**Basal till.** Compact glacial till deposited beneath the ice.

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

**Beach deposits.** Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.

**Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

**Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

**Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

**Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

**Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

**Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

**Bog.** Waterlogged, spongy ground, consisting primarily of mosses, containing acidic, decaying

vegetation (such as sphagnum, sedges, and heaths) that develops into peat.

**Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.

**Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Canopy.** The leafy crown of trees or shrubs. (See Crown.)

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Catena.** A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay,

less than 45 percent sand, and less than 40 percent silt.

**Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Coarse textured soil.** Sand or loamy sand.

**Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

**Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**COLE (coefficient of linear extensibility).** See Linear extensibility.

**Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

**Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation

cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

**Coprogenous earth (sedimentary peat).** Fecal material deposited in water by aquatic organisms.

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Cropping system.** Growing crops according to a planned system of rotation and management practices.

**Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

**Crown.** The upper part of a tree or shrub, including the living branches and their foliage.

**Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

**Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

**Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.

**Delta.** A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

**Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

**Depression.** Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

**Disintegration moraine.** A drift topography characterized by chaotic mounds and pits, generally randomly oriented, developed in supraglacial drift by collapse and flow as the underlying stagnant ice melted. Slopes may be steep and unstable. Abrupt changes between materials of differing lithology are common.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Drainage class** (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the "Soil Survey Manual."

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Drainageway.** A relatively small, linear depression that, at some time, moves concentrated water and

either does not have a defined channel or has only a small defined channel.

**Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**End moraine.** A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more

gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

**Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

**First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.



**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

**Frost action** (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Geomorphology.** The science that treats the general configuration of the earth's surface; specifically, the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

**Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

**Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

**Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

**Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

**Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.

**Grassed waterway.** A natural or constructed

waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

**Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hard to reclaim** (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**Herbaceous peat.** An accumulation of organic material, decomposed to some degree, that is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.

**High-chroma zones.** Zones having chroma of 3 or more. Typical color in areas of iron concentrations.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as

much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped

according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Ice-walled lake plain.** A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasesers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasesers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net

irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluve.** An elevated area between two drainageways that sheds water to those drainageways.

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron concentrations.** High-chroma zones having a high content of iron and manganese oxide because of chemical oxidation and accumulation, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic concentration.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:  
*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.  
*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.  
*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.  
*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.  
*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.  
*Furrow.*—Water is applied in small ditches made

by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Kame.** An irregular, short ridge or hill of stratified glacial drift.

**Kame moraine.** An end moraine that contains numerous kames. A group of kames along the front of a stagnant glacier, commonly comprising the slumped remnants of a formerly continuous outwash plain built up over the foot of rapidly wasting or stagnant ice.

**Karst (topography).** The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**$K_{sat}$ .** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Lake bed.** The bottom of a lake; a lake basin.

**Lake plain.** A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

**Lake terrace.** A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

**Lakeshore.** A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.

**Lamella.** A thin (commonly less than 1 cm thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

**Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**Large stones (in tables).** Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $\frac{1}{3}$ - or  $\frac{1}{10}$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**Low-chroma zones.** Zones having chroma of 2 or less. Typical color in areas of iron depletions.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Marl.** An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Mineral soil.** Soil that is mainly mineral material and

low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Mucky peat.** Unconsolidated soil material consisting primarily of organic matter that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material cannot be recognized.

**Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds



making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

**Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low .....	less than 0.5 percent
Low .....	0.5 to 1.0 percent
Moderately low .....	1.0 to 2.0 percent
Moderate .....	2.0 to 4.0 percent
High .....	4.0 to 8.0 percent
Very high .....	more than 8.0 percent

**Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment.** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

**Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable .....	less than 0.0015 inch
Very slow .....	0.0015 to 0.06 inch
Slow .....	0.06 to 0.2 inch
Moderately slow .....	0.2 to 0.6 inch
Moderate .....	0.6 inch to 2.0 inches
Moderately rapid .....	2.0 to 6.0 inches
Rapid .....	6.0 to 20 inches
Very rapid .....	more than 20 inches

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Pitted outwash plain.** An outwash plain marked by many irregular depressions, such as kettles, shallow pits, and potholes, which formed by melting of incorporated ice masses; common in Wisconsin and Minnesota.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly

the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).**

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid .....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid .....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline .....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline .....	9.1 and higher

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been

removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

**Rise.** A slight increase in elevation of the land surface, typically with a broad summit and gently sloping sides.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a

soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.

**Saturated hydraulic conductivity ( $K_{sat}$ ).** See Permeability.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

**Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Seepage** (in tables). The movement of water through the soil adversely affects the specified use.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and

swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silica.** A combination of silicon and oxygen. The mineral form is called quartz.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Sinkhole.** A depression in the landscape where limestone has been dissolved.

**Slickensides.** Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

**Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

**Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

**Sodium adsorption ratio (SAR).** A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of

climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stagnation moraine.** A body of drift released by the melting of a glacier that ceased flowing. Commonly, but not always, occurs near ice margins; composed of till, ice-contact stratified drift, and small areas of glacial lake sediment. Typical landforms are knob-and-kettle topography, locally including ice-walled lake plains.

**Stone line.** A concentration of rock fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or

*massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsidence.** The potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semifluid mineral layers. Subsidence, as a result of drainage, is attributed to (1) shrinkage from drying, (2) consolidation because of the loss of ground-water buoyancy, (3) compaction from tillage or manipulation, (4) wind erosion, (5) burning, and (6) biochemical oxidation.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter or loosen a layer that restricts roots.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Swale.** A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine caused by uneven glacial deposition.

**Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace** (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

**Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

**Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

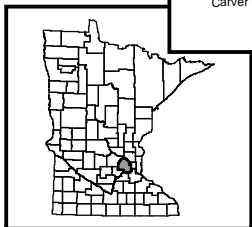
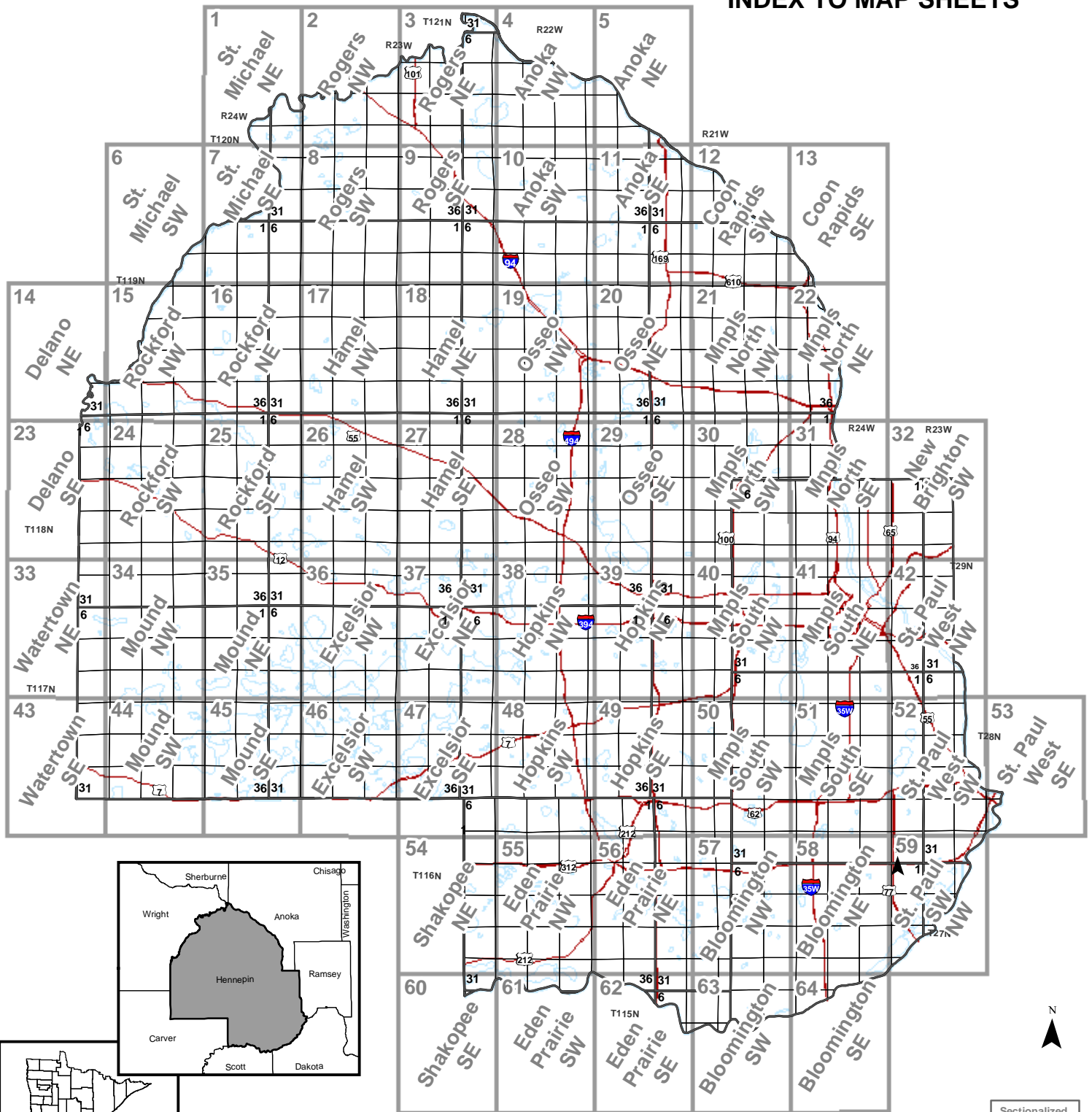
**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

**Windthrow.** The uprooting and tipping over of trees by the wind.

**Woody peat.** An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.



# HENNEPIN COUNTY, MINNESOTA INDEX TO MAP SHEETS



1 inch equals 4 miles  
2 0 2 4 Miles

Sectionalized Township

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

# Conventional and Special Symbols Legend

## Soil Survey of Hennepin County, Minnesota

*Description*

*Symbol*

### BOUNDARIES

County or parish



Field sheet matchline  
and neatline



State coordinate tick



Public Land Survey System  
section boundary (white line)



Land division corners



Geographic coordinate  
tick



### ROADS

Interstate



Federal



State

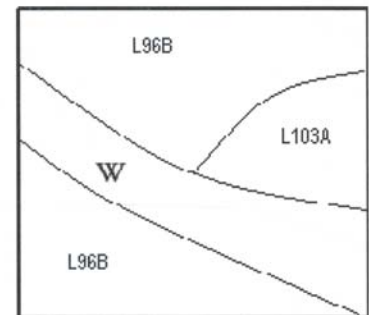


*Description*

*Symbol*

### SPECIAL SYMBOLS FOR SOIL SURVEY

Soil delineations  
and symbols



### LANDFORM FEATURES

Short steep slope



### EXCAVATIONS

Gravel pit



### MISCELLANEOUS SURFACE FEATURES

Gravelly spot



Sandy spot



Seep spot



Knoll of better drained soil



## Definitions of Special Symbols

Name	Definition
Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.5 acre to 2.0 acres.
Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area with less than 15 percent rock fragments. Typically 0.5 acre to 2.0 acres.
Knoll of better drained soil	A knoll that is at least two drainage classes drier than the drainage class of the surrounding map unit.
Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically 0.5 acre to 2.0 acres.
Seep spot	A sloping area on the landscape that discharges ground water and that typically stays wet all year. May contain springs and small pockets of shallow water. Typically 0.5 acre to 2.0 acres.
Short steep slope	A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

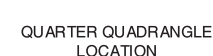
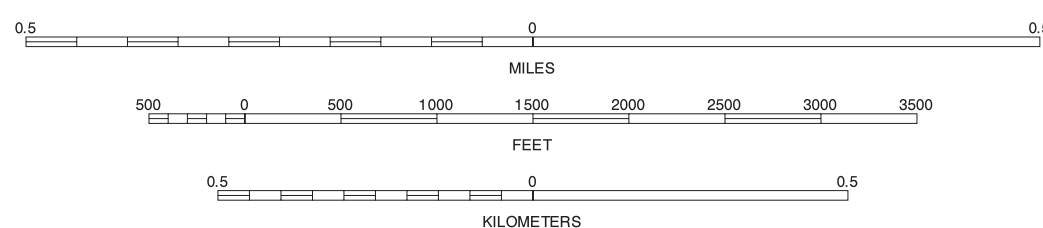


HENNEPIN COUNTY, MINNESOTA  
SAINT MICHAEL NE QUADRANGLE  
SHEET NUMBER 1 OF 64

93° 37' 30"



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.



SAINT MICHAEL NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 1 OF 64

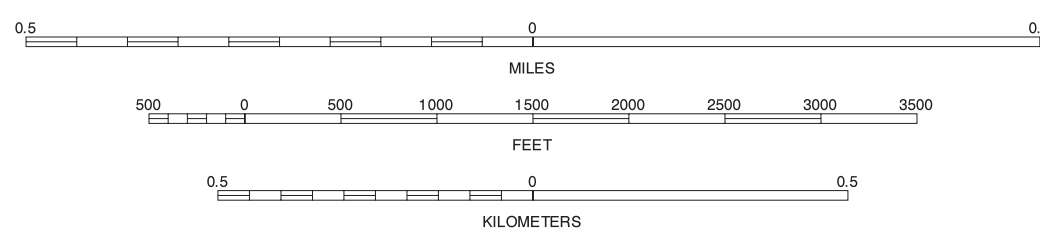


HENNEPIN COUNTY, MINNESOTA  
ROGERS NW QUADRANGLE  
SHEET NUMBER 2 OF 64

93° 33' 45"



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.



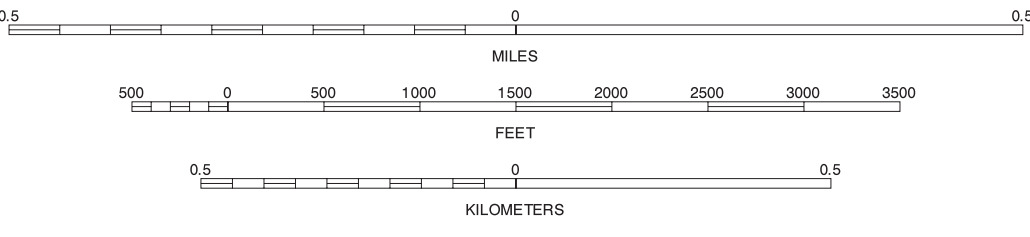
ROGERS NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 2 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

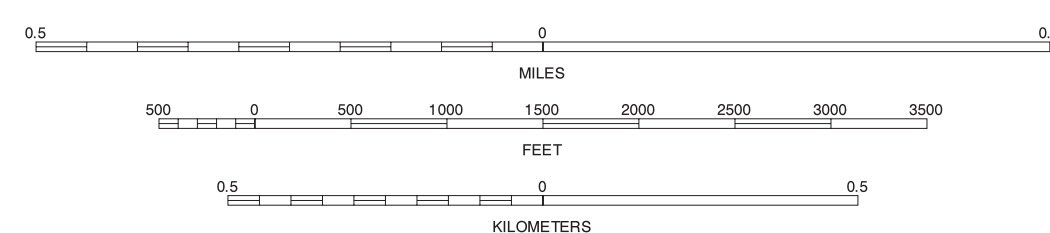
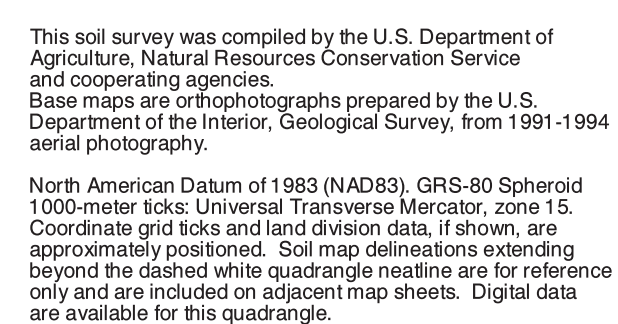
North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



ROGERS NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 3 OF 64

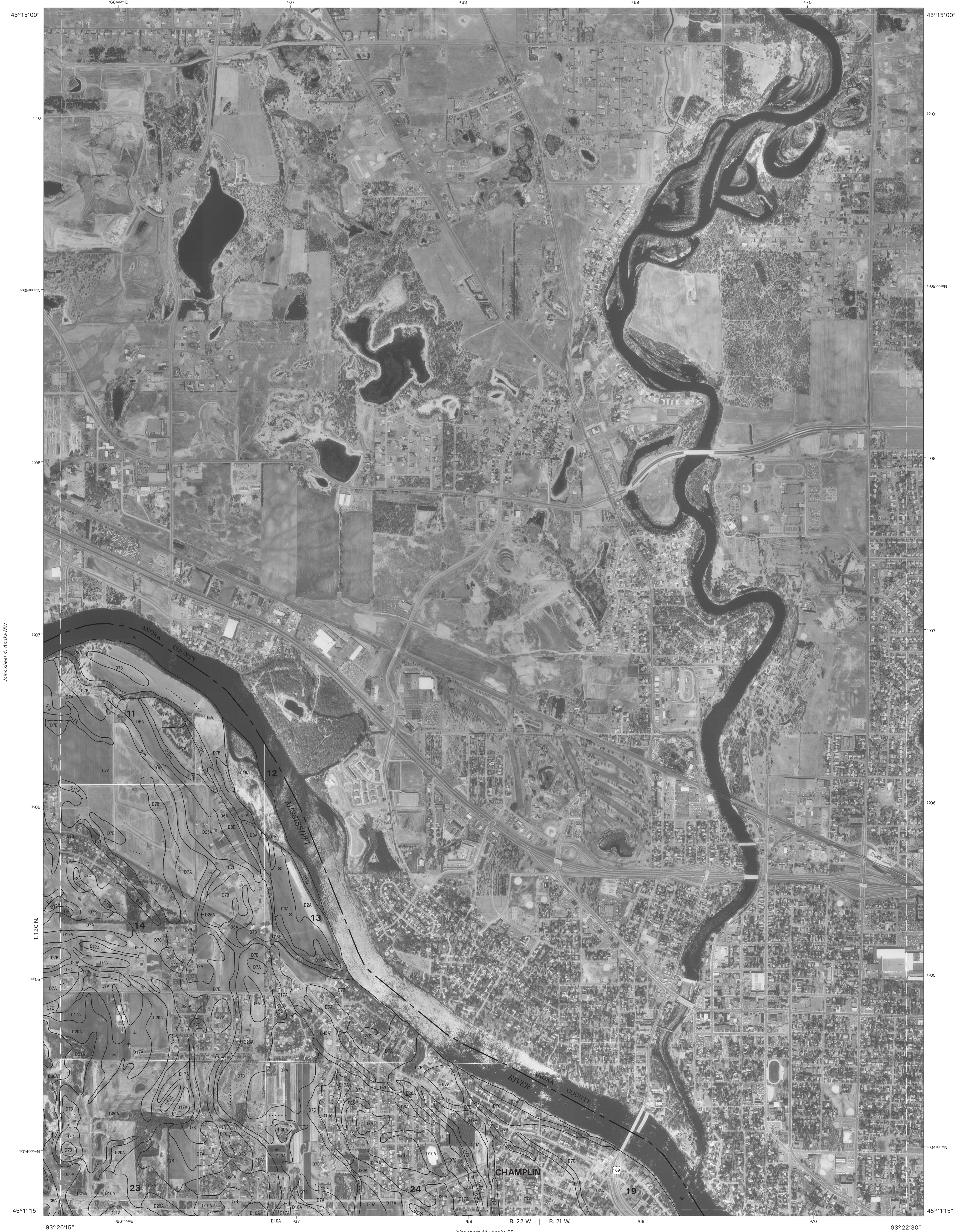


HENNEPIN COUNTY, MINNESOTA  
ANOKA NW QUADRANGLE  
SHEET NUMBER 4 OF 64

QUARTER QUADRANGLE  
LOCATION

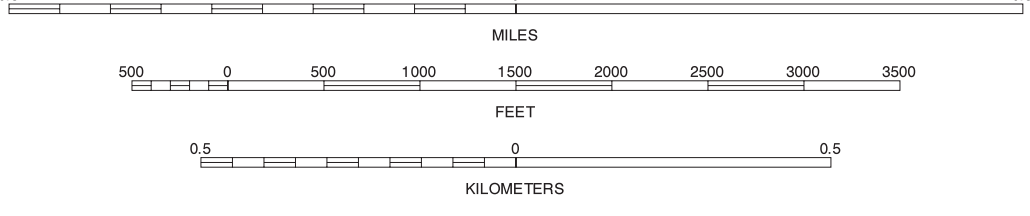
ANOKA NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 4 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



ANOKA NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 5 OF 64

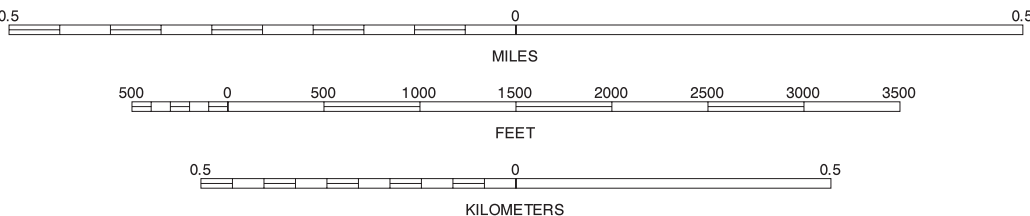




This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH

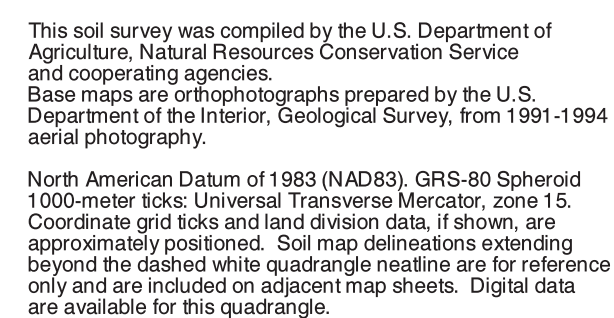


SAINT MICHAEL SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 6 OF 64

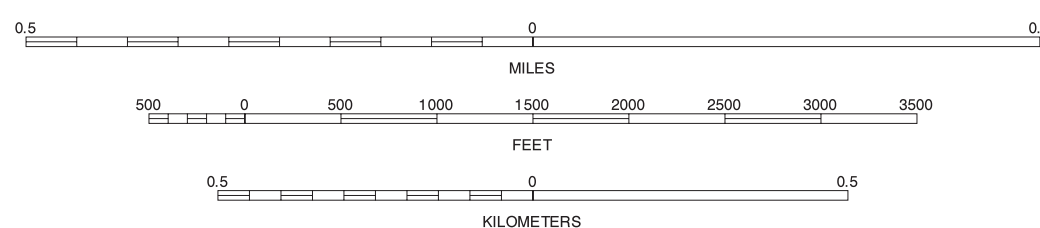


HENNEPIN COUNTY, MINNESOTA  
SAINT MICHAEL SE QUADRANGLE  
SHEET NUMBER 7 OF 64

*Joins sheet 1, Saint Michael NE*



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neckline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

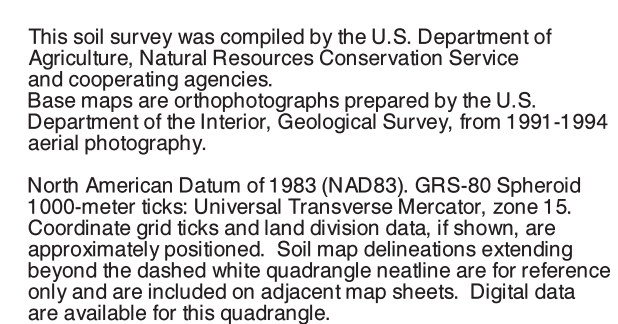
QUARTER QUADRANGLE  
LOCATION

SAINT MICHAEL SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 7 OF 64

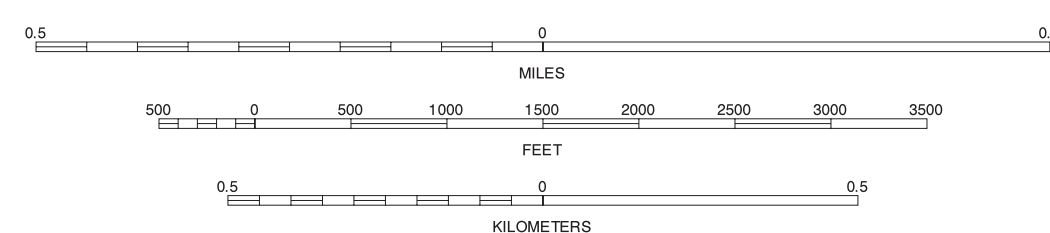
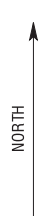


HENNEPIN COUNTY, MINNESOTA  
ROGERS SW QUADRANGLE  
SHEET NUMBER 8 OF 64

*Joins sheet 2, Rogers NW*



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

QUARTER QUADRANGLE  
LOCATION

ROGERS SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 8 OF 64



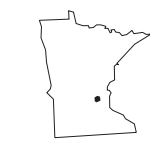
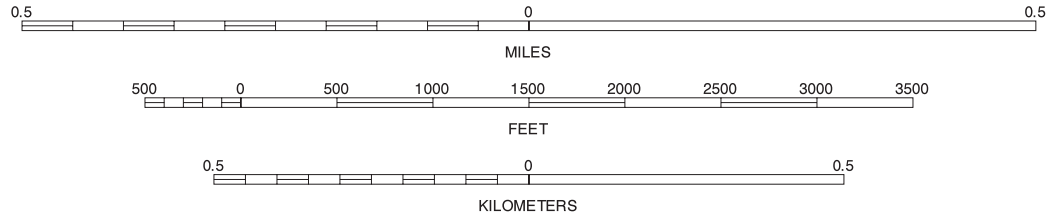
Joins sheet 3, Rogers NE

93° 30' 00"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

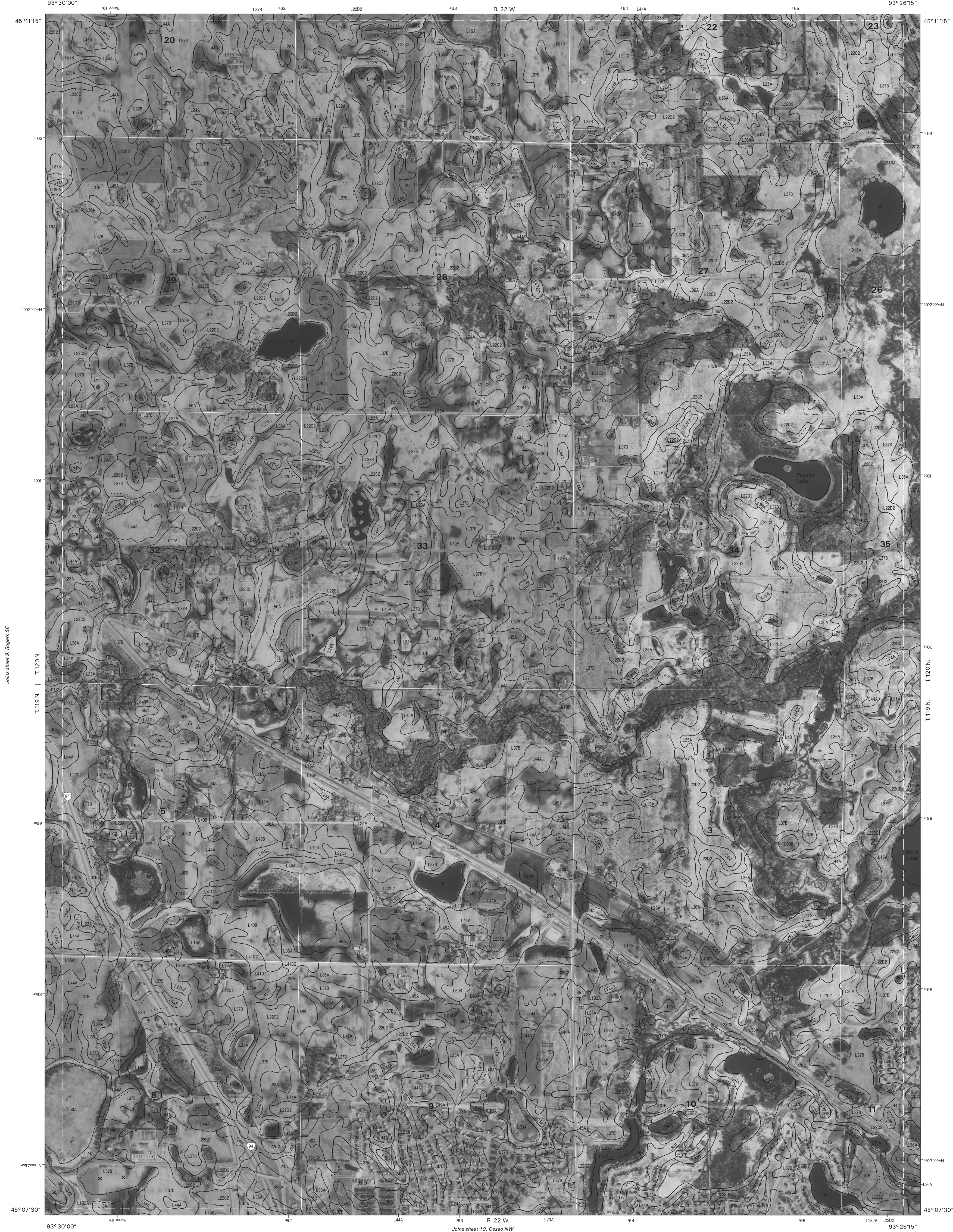


ROGERS SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 9 OF 64



Joins sheet 4, Anoka NW

93°26'15"



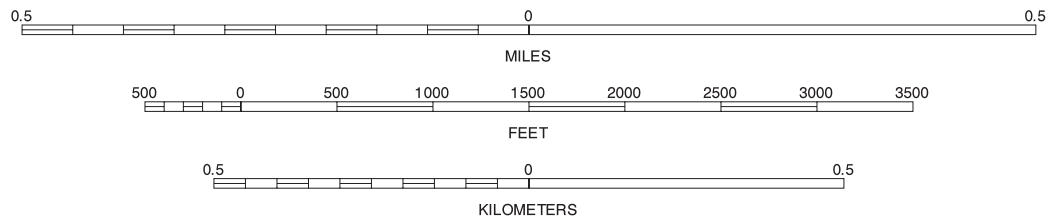
Joins sheet 9, Rogers SE

Joins sheet 11, Anoka SE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE  
LOCATION

ANOKA SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 10 OF 64



Joins sheet 5, Anoka NE

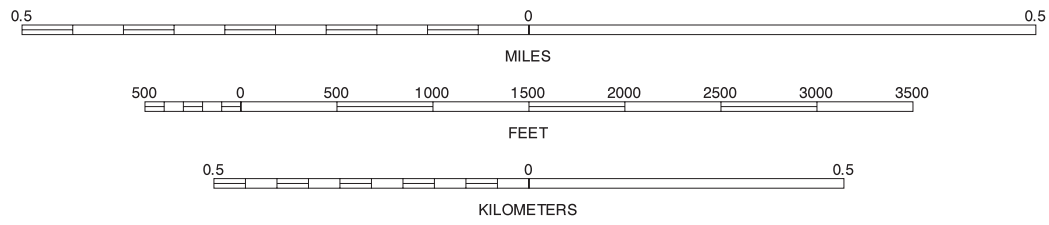
R. 22 W. | R. 21 W.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

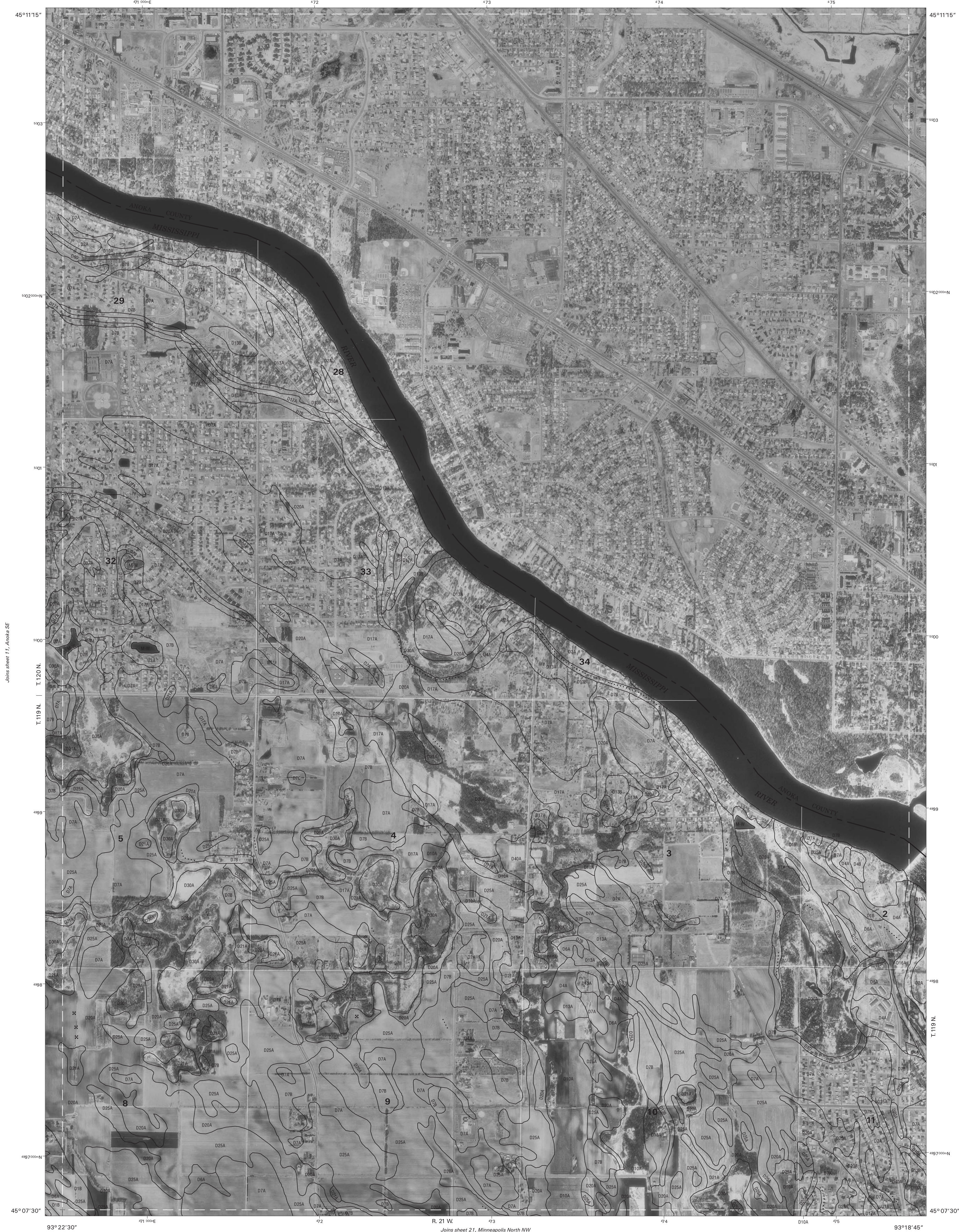
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



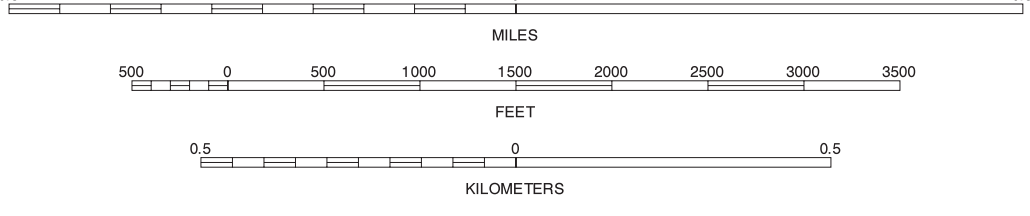
ANOKA SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 11 OF 64



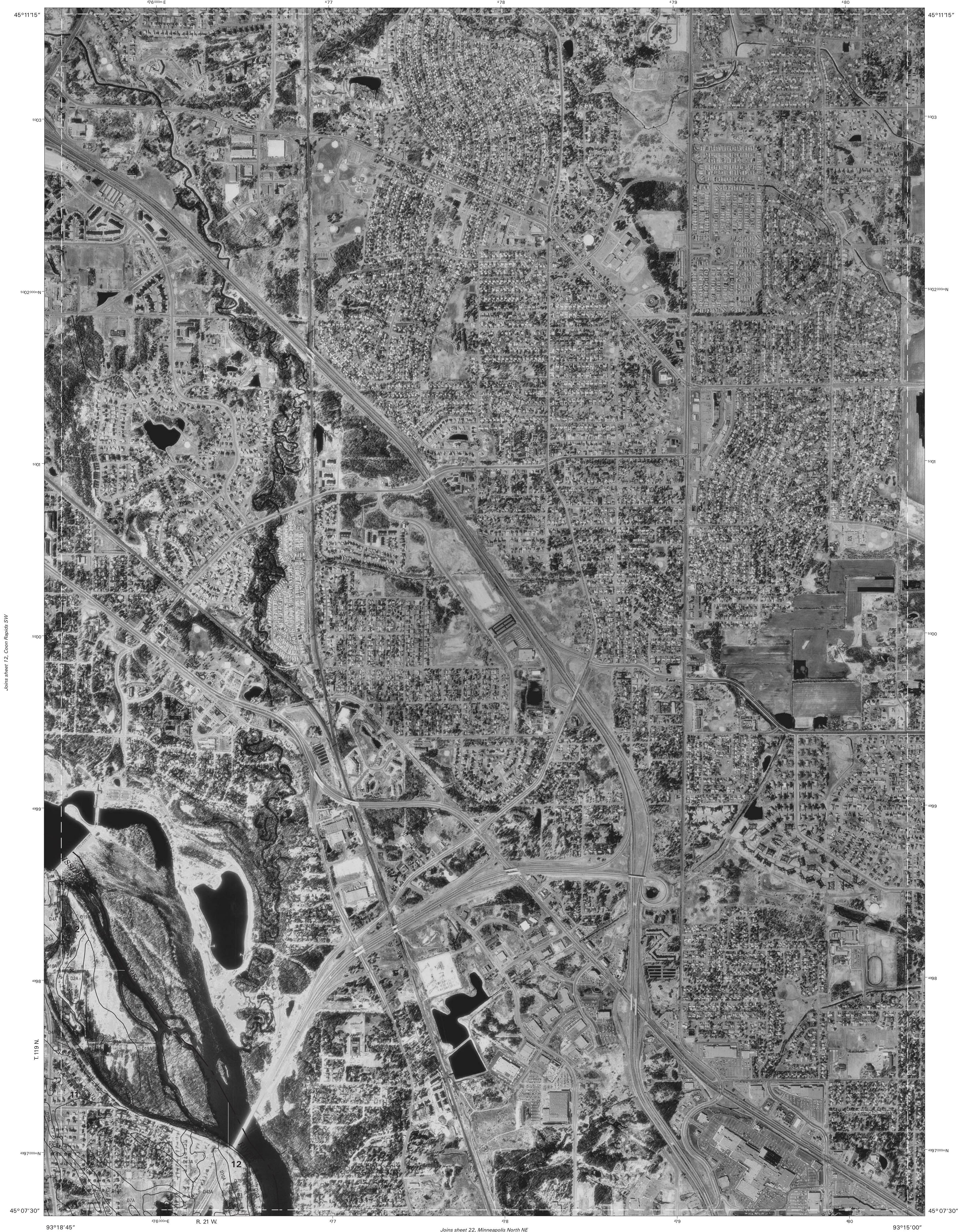


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



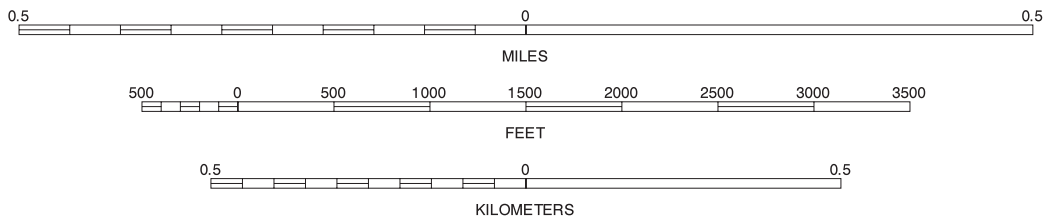




This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



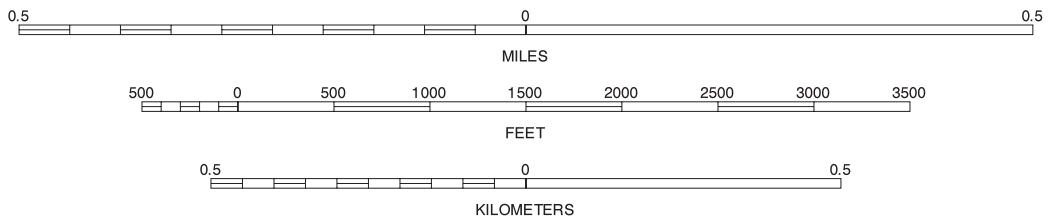
COON RAPIDS SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 13 OF 64





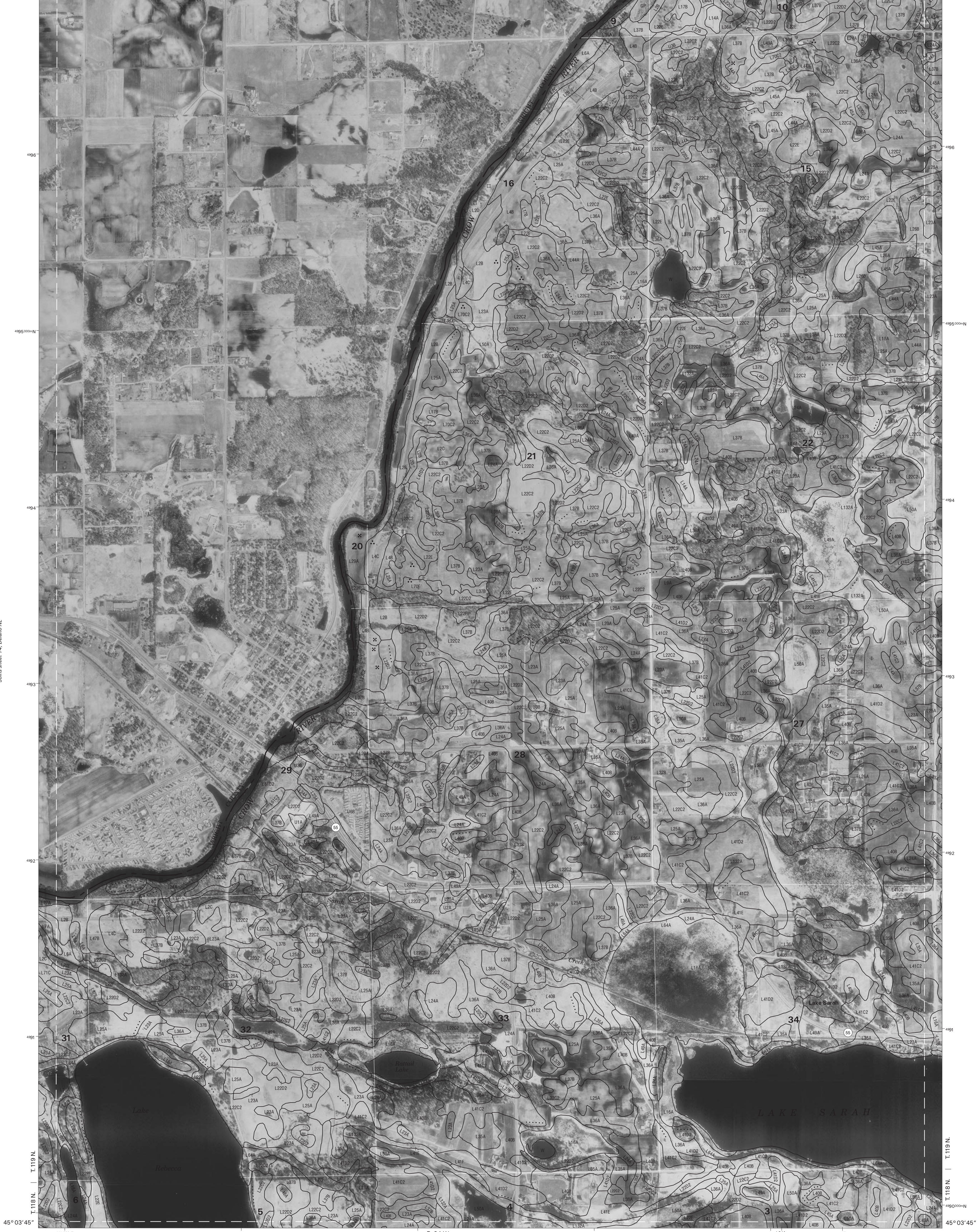
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography. North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



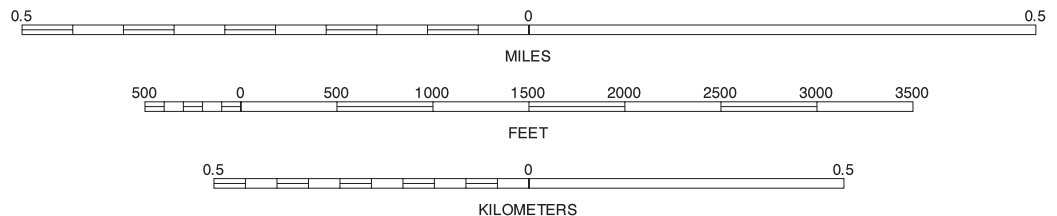
DELANO NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 14 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

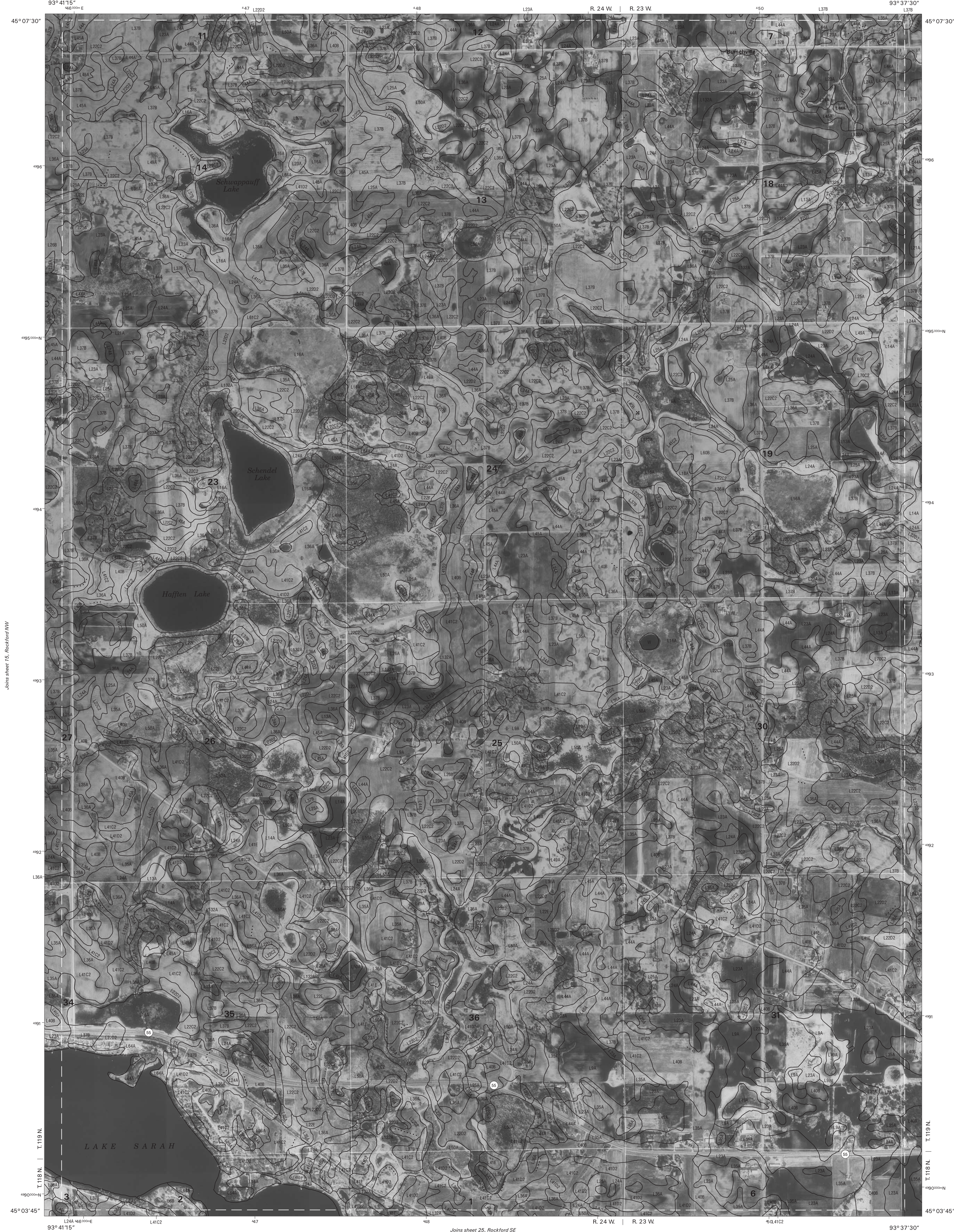


QUARTER QUADRANGLE  
LOCATION

ROCKFORD NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 15 OF 64

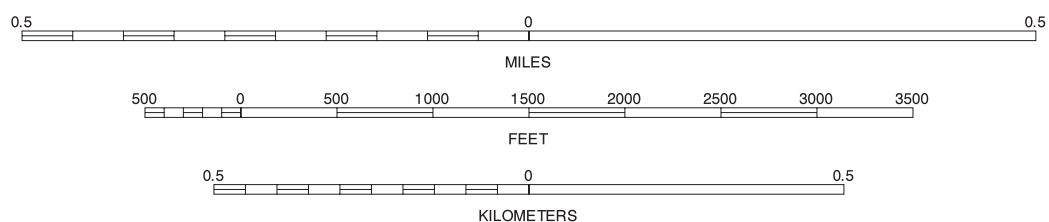


Joins sheet 7, Saint Michael SE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



ROCKFORD NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 16 OF 64



Joins sheet 8, Rogers SW



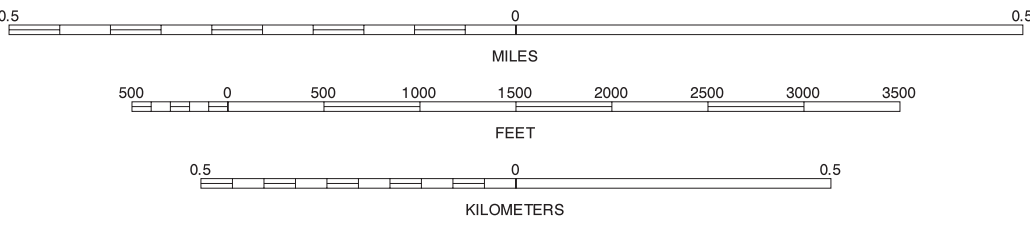
Joins sheet 16, Rockford NE

Joins sheet 18, Tormal NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrange neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

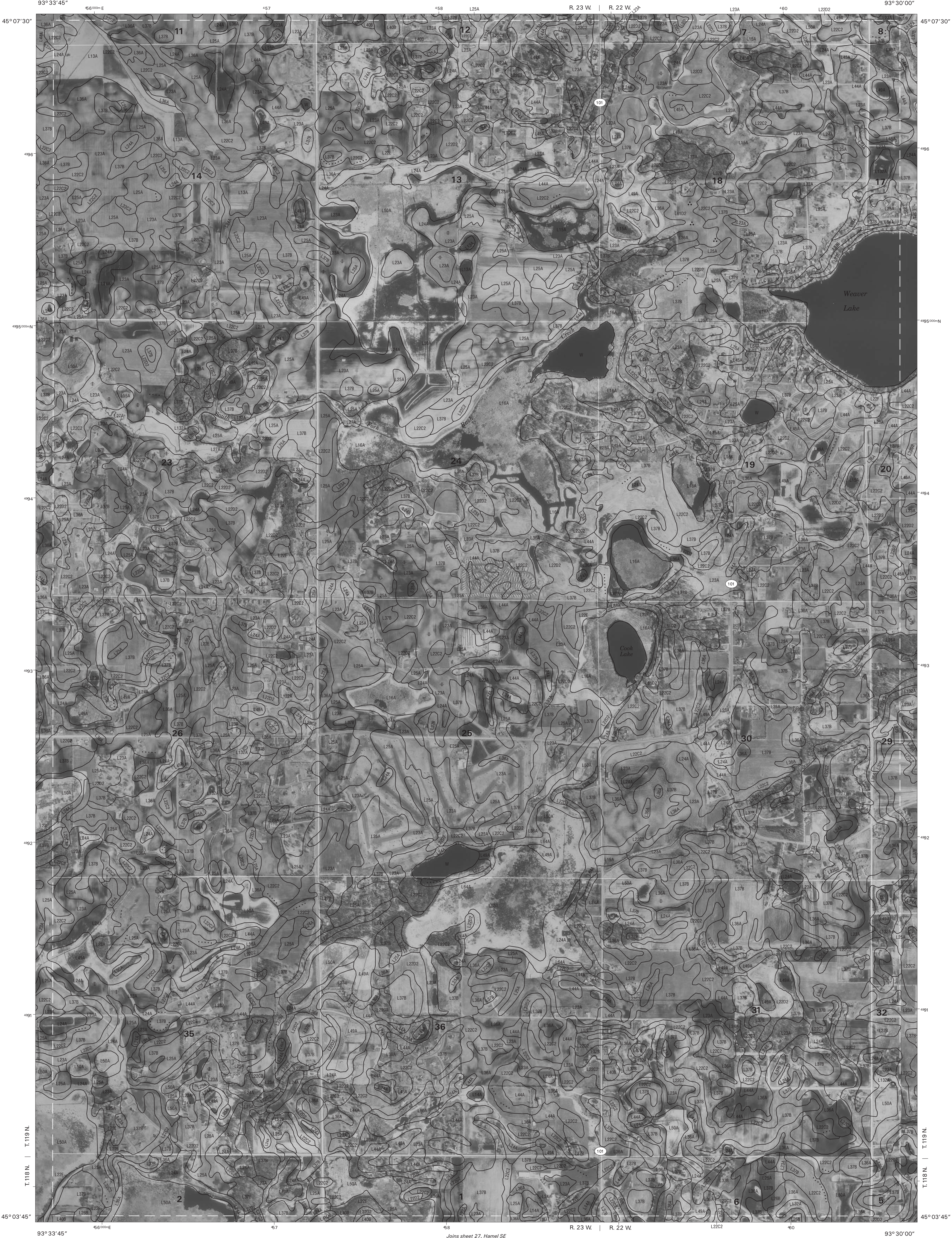
NORTH



HAMEL NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 17 OF 64



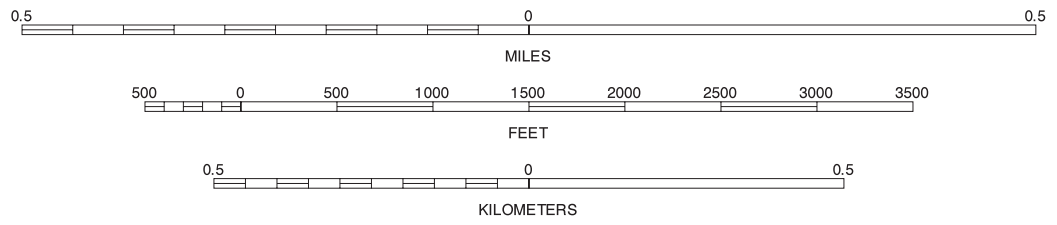
Joins sheet 9, Rogers SE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrange neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



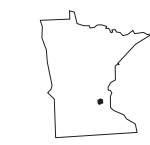
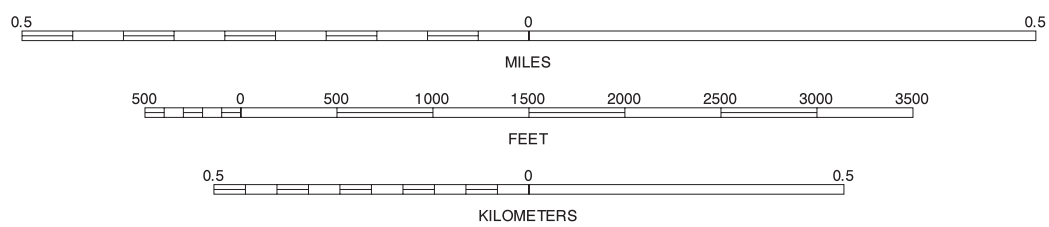
HAMEL NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 18 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



OSSEO NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 19 OF 64



HENNEPIN COUNTY, MINNESOTA  
OSSEO NE QUADRANGLE  
SHEET NUMBER 20 OF 64  
93° 22' 30"

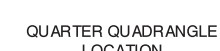
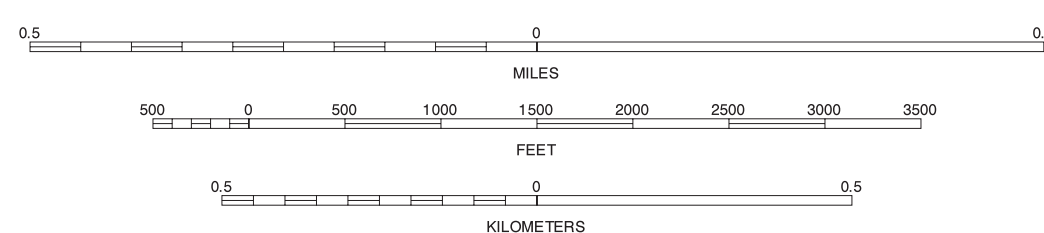
R. 22 W. | R. 21 W.

93° 22' 30"



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

SCALE 1:12000

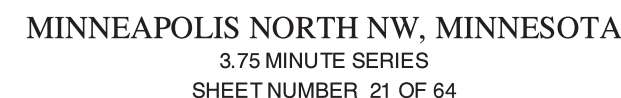


OSSEO NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 20 OF 64

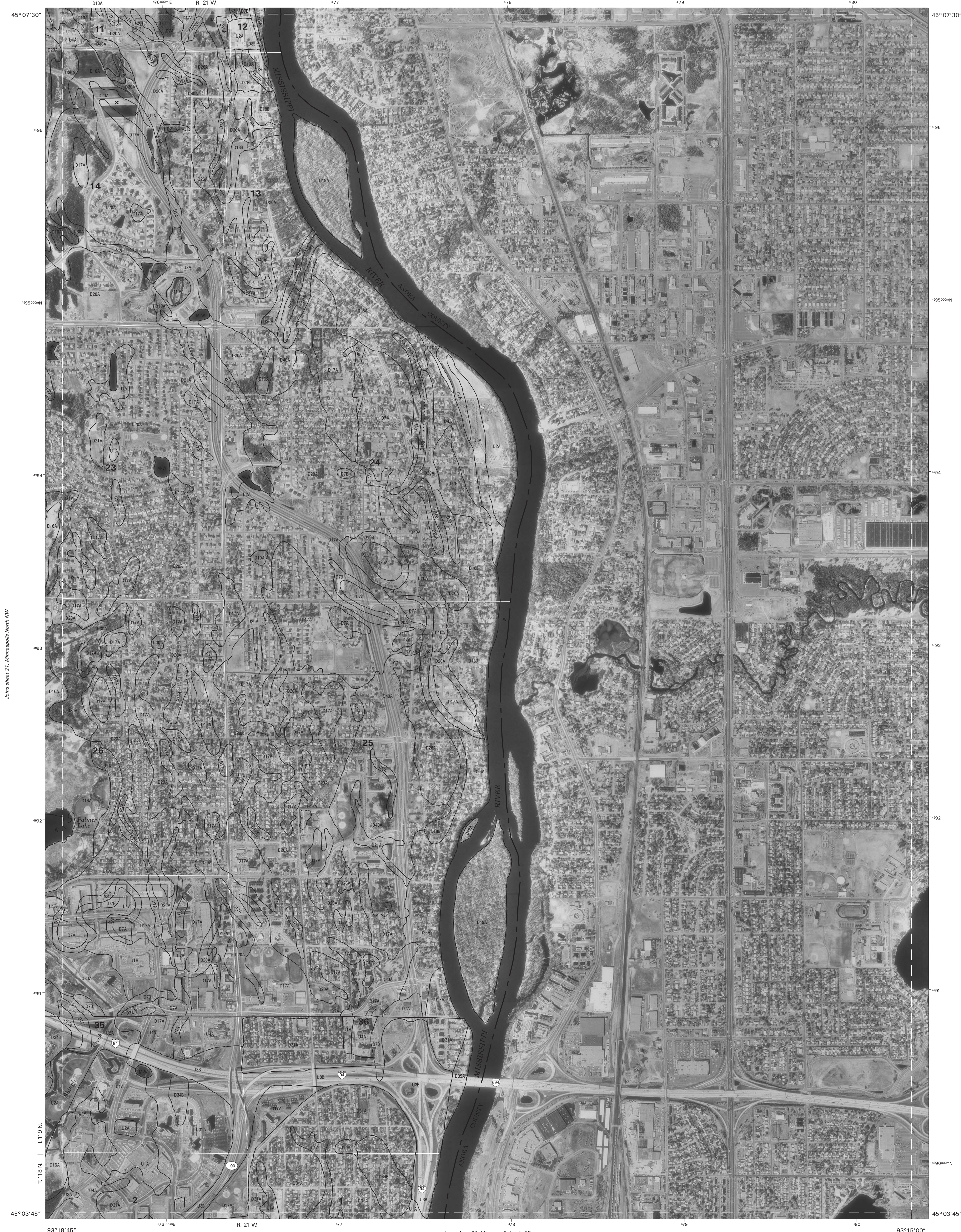


HENNEPIN COUNTY, MINNESOTA  
MINNEAPOLIS NORTH NW QUADRANGLE  
SHEET NUMBER 21 OF 64

*Joins sheet 12, Coon Rapids SW*

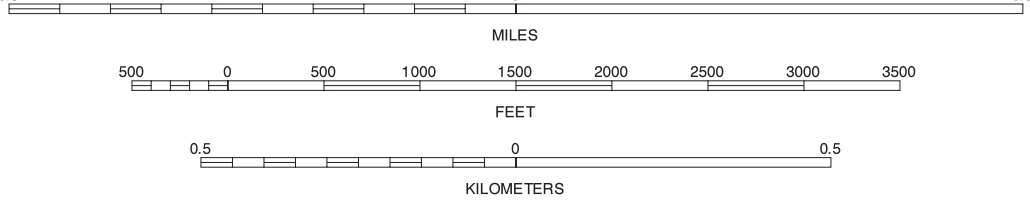






This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

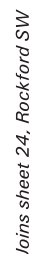


MINNEAPOLIS NORTH NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 22 OF 64

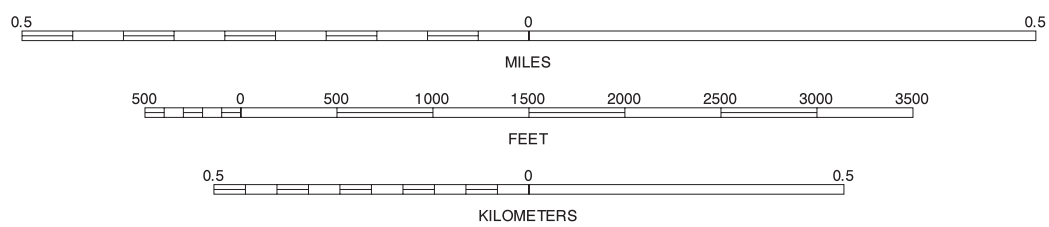


HENNEPIN COUNTY, MINNESOTA  
DELANO SE QUADRANGLE  
SHEET NUMBER 23 OF 64

*Joins sheet 14, Delano NE*



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neckline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

QUARTER QUADRANGLE  
LOCATION

DELANO SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 23 OF 64

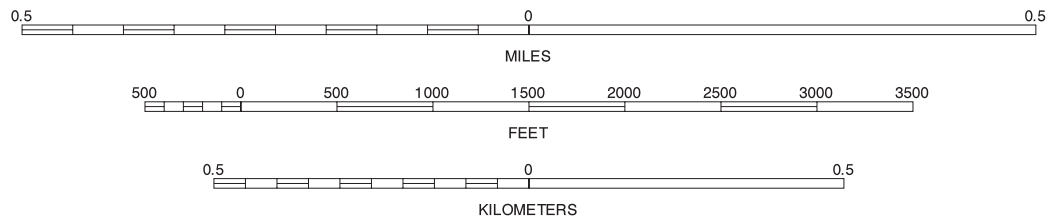


Joins sheet 15, Rockford NW



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

ROCKFORD SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 24 OF 64



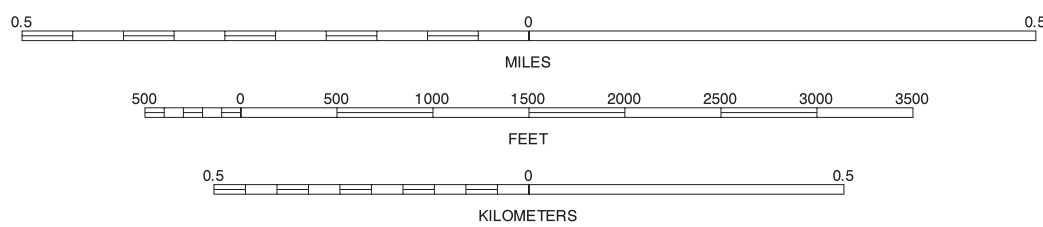
Joins sheet 16, Rockford NE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



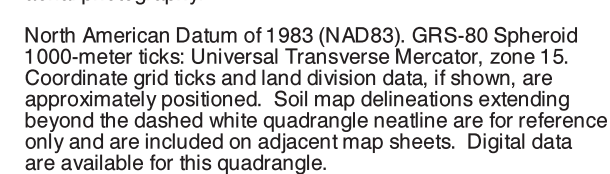
QUARTER QUADRANGLE  
LOCATION

ROCKFORD SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 25 OF 64



HENNEPIN COUNTY, MINNESOTA  
HAMEL SW QUADRANGLE  
SHEET NUMBER 26 OF 64

*Joins sheet 17, Hamel NW*



SCALE 1:12000

0

MILES

1500

0 1000 2000  
FEET

0

KILOMETERS

KILOMETERS

HAMEL SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 26 OF 64



HENNEPIN COUNTY, MINNESOTA  
HAMEL SE QUADRANGLE  
SHEET NUMBER 27 OF 64  
93° 30' 00"

R. 23 W. | R. 22 W.

93° 30' 00"



HAMEL SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 27 OF 64

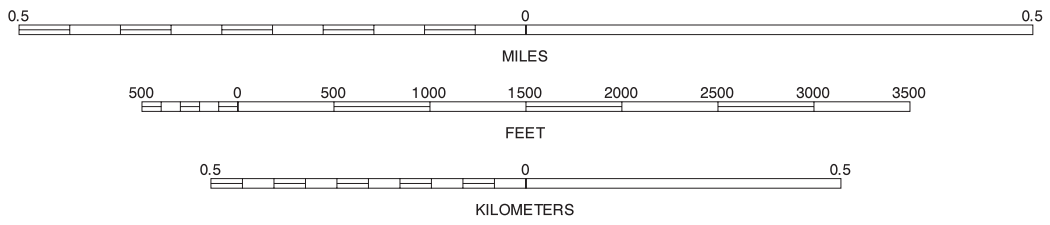


Joins sheet 19, Osseo NW



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION

OSSEO SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 28 OF 64



Joins sheet 20, Osseo NE

R. 22 W. | R. 21 W.

93° 22' 30"

45° 03' 45"

45° 03' 45"



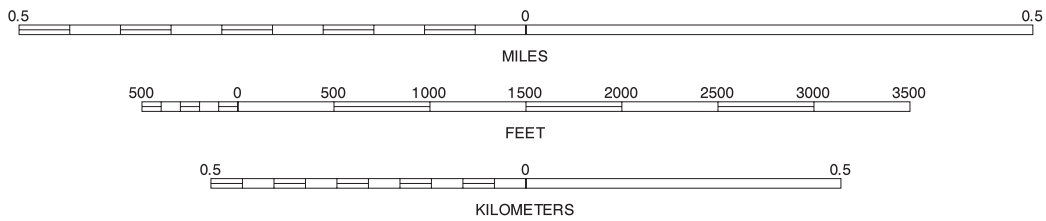
Joins sheet 28, Osseo SW

Joins sheet 30, Minneapolis North SW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

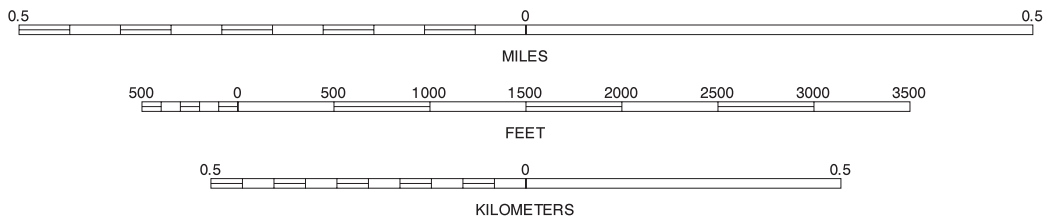
OSSEO SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 29 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

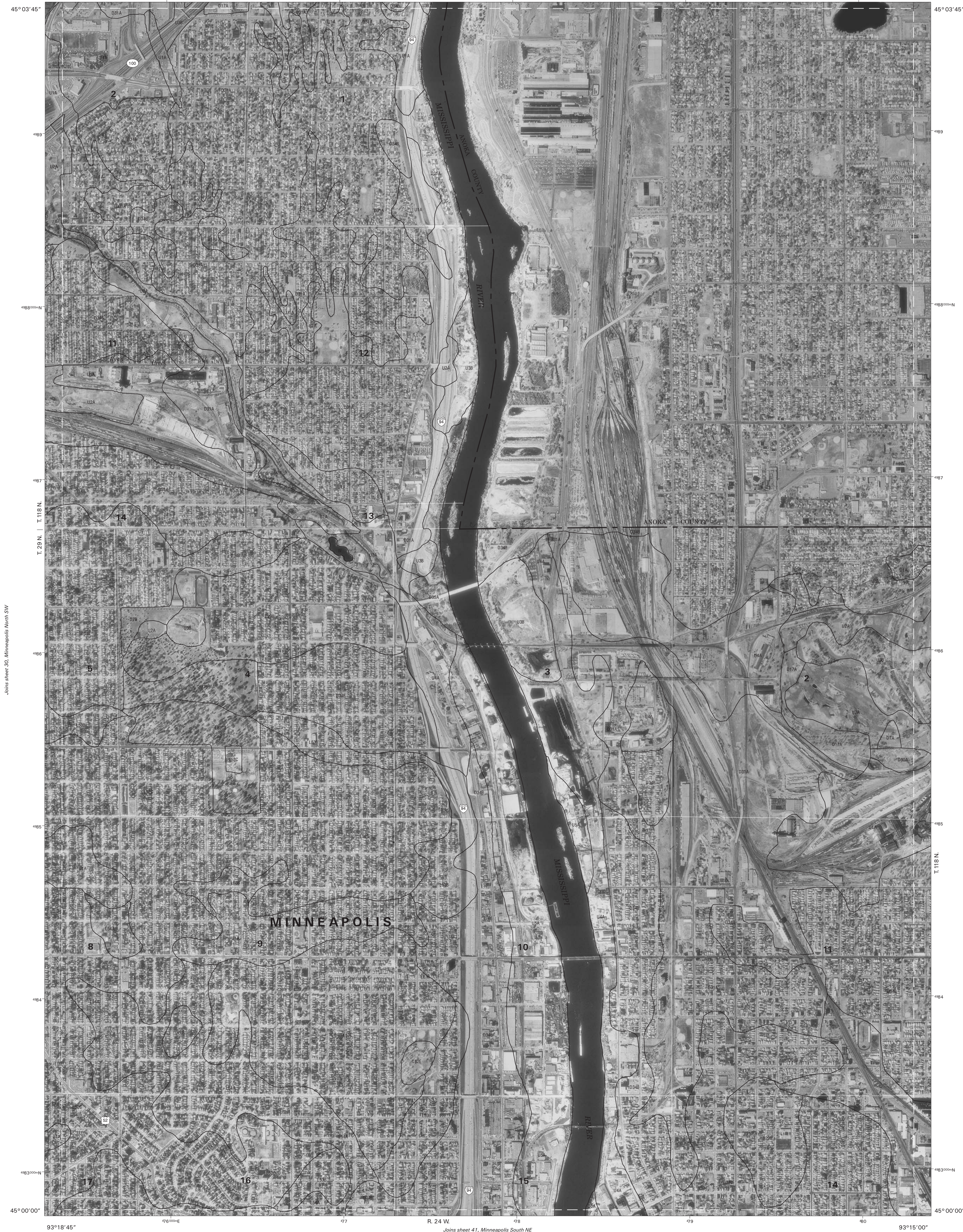
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



MINNEAPOLIS NORTH SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 30 OF 64

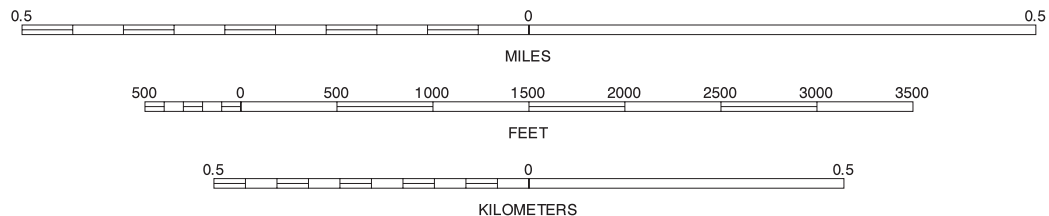


Joins sheet 22, Minneapolis North NE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

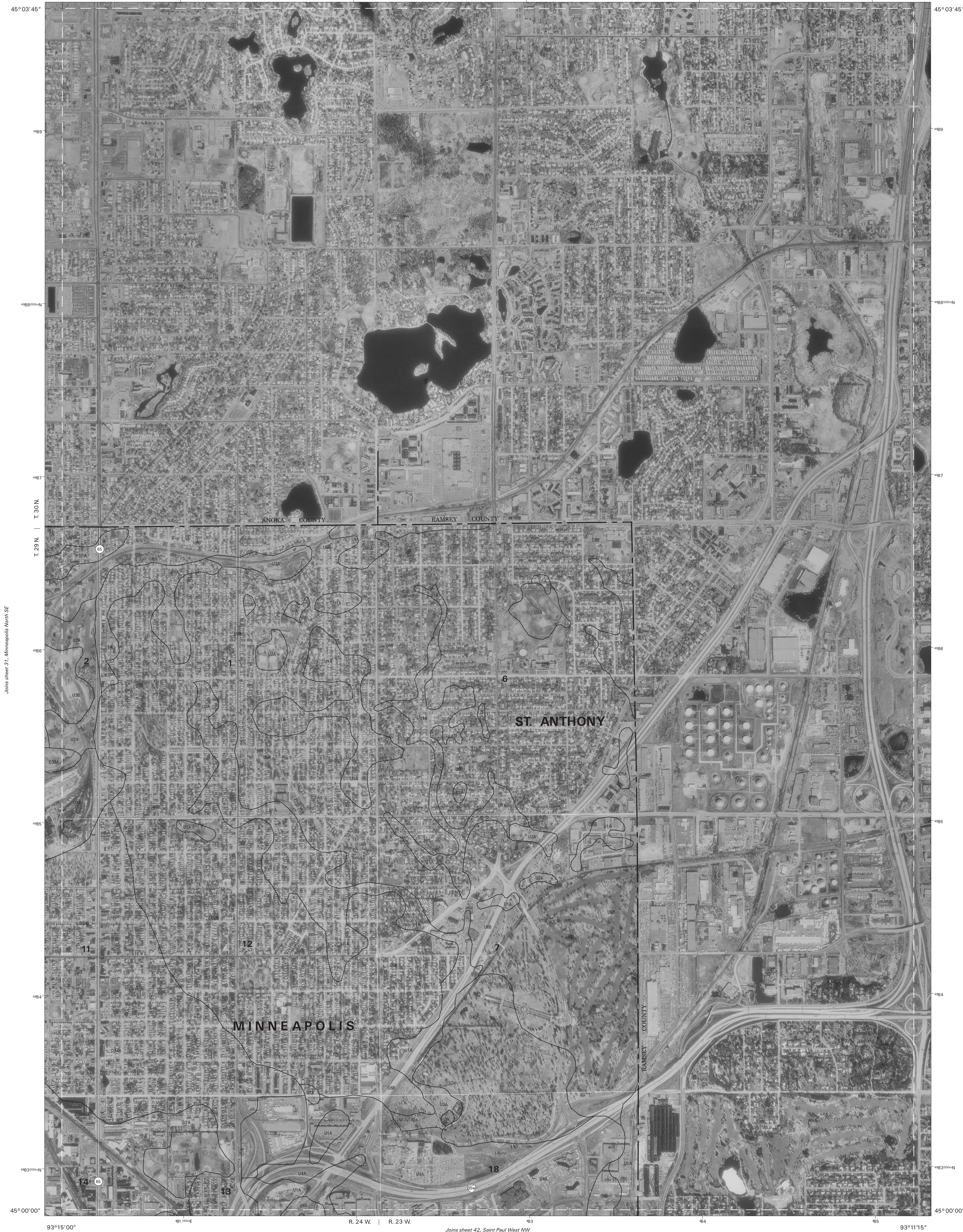
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION

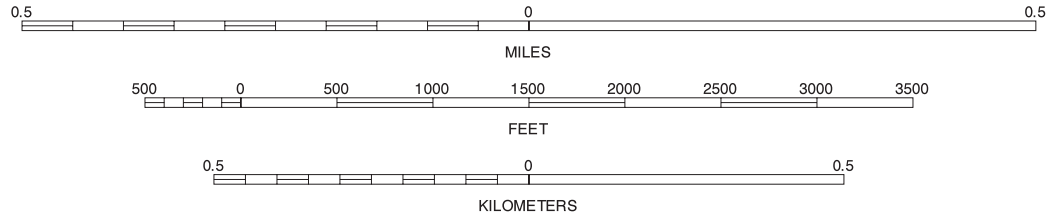
MINNEAPOLIS NORTH SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 31 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



NEW BRIGHTON SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 32 OF 64



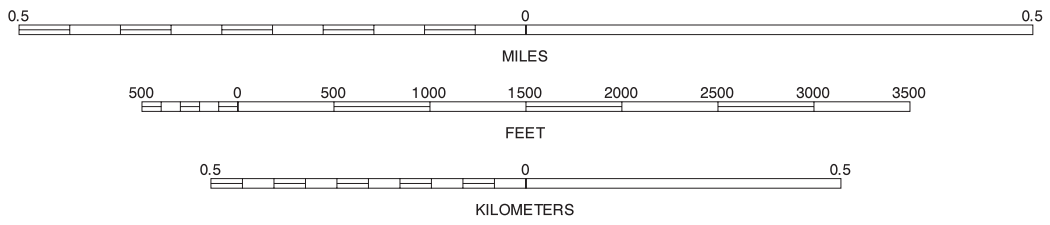
Joins sheet 23, Delano SE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE  
LOCATION

WATERTOWN NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 33 OF 64



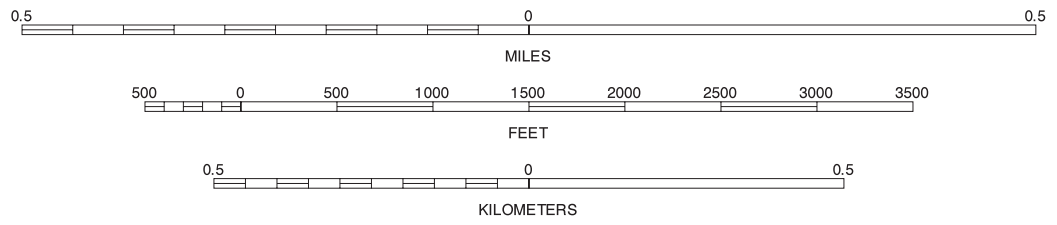
Joins sheet 24, Rockford SW



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

MOUND NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 34 OF 64



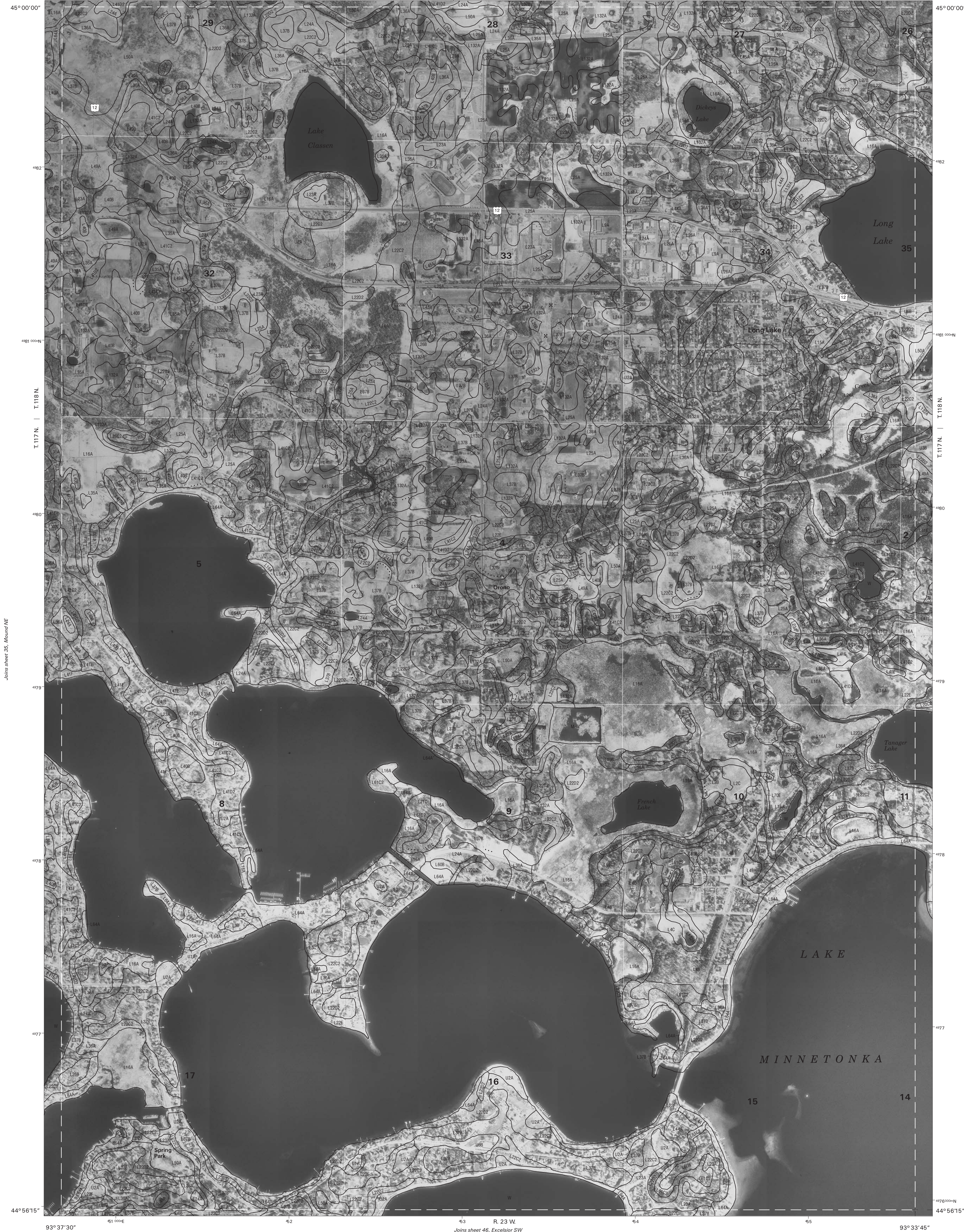
HENNEPIN COUNTY, MINNESOTA  
MOUND NE QUADRANGLE  
SHEET NUMBER 35 OF 64

*Joins sheet 25, Rockford SE*



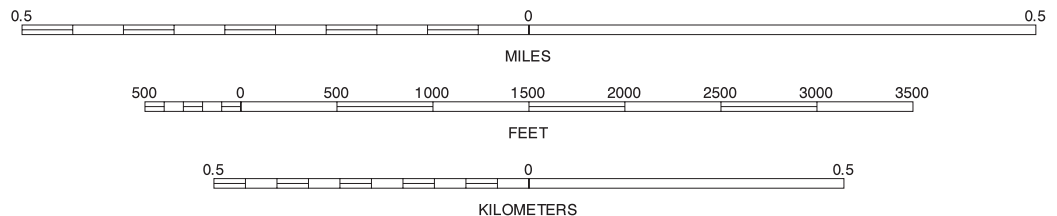
MOUND NE, MINNESOTA  
 3.75 MINUTE SERIES  
 SHEET NUMBER 35 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



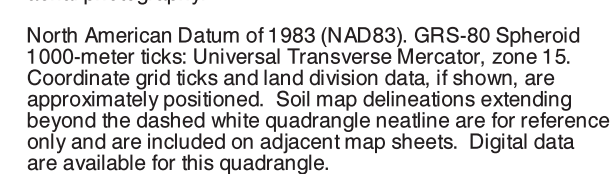
QUARTER QUADRANGLE  
LOCATION

EXCELSIOR NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 36 OF 64



HENNEPIN COUNTY, MINNESOTA  
EXCELSIOR NE QUADRANGLE  
SHEET NUMBER 37 OF 64

Joins sheet 27. Hamel SF



Join sheet 47, Excelsior SE

SCALE 1:12000

QUARTER QUADRANGLE  
LOCATION

EXCELSIOR NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 37 OF 64



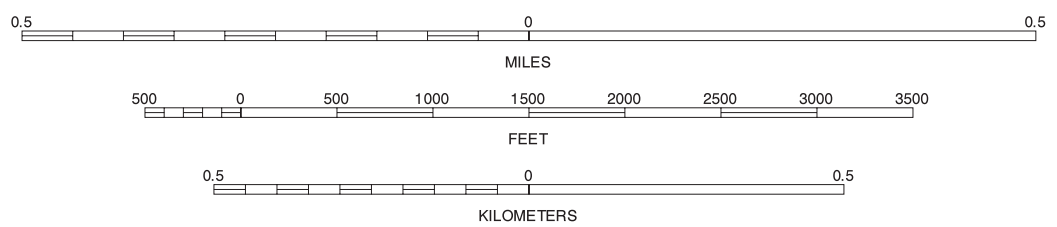
Joins sheet 28, Osseo SW



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

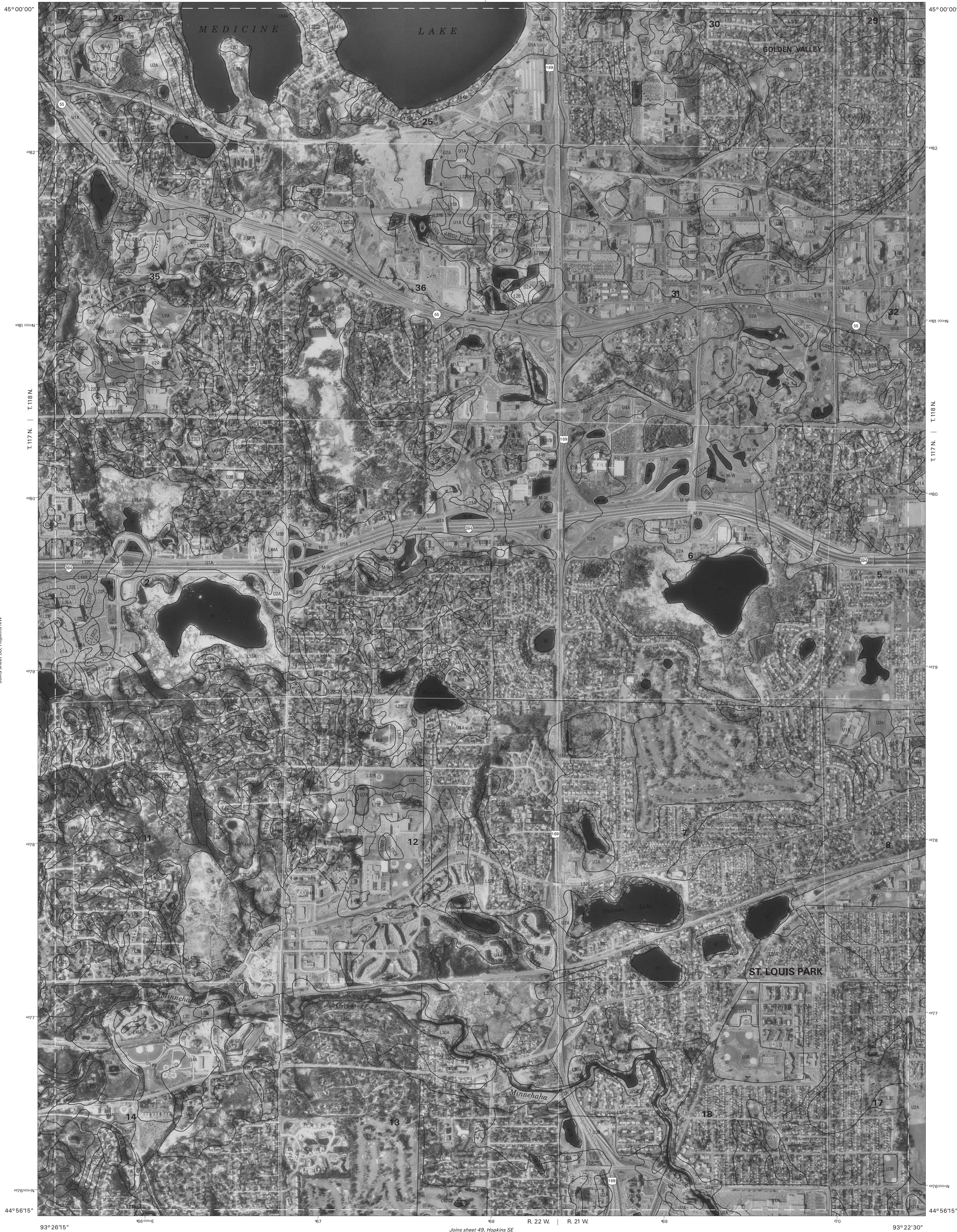
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



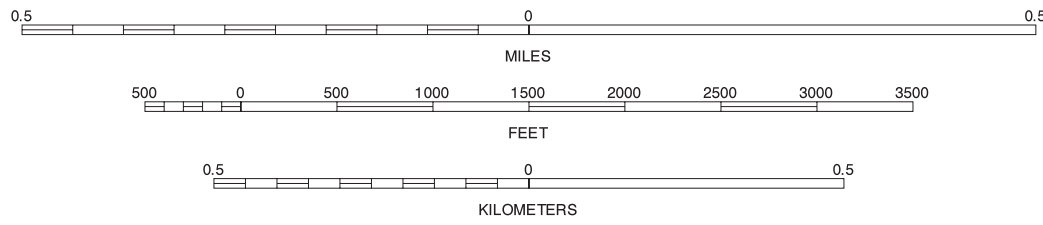
HOPKINS NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 38 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle realine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION

HOPKINS NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 39 OF 64



Joins sheet 30, Minneapolis North SW



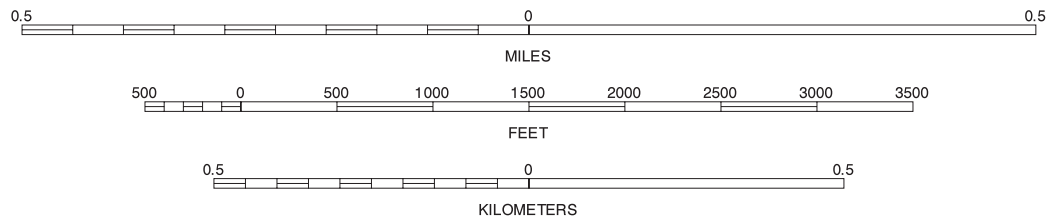
Joins sheet 39, Hopkins NE

Joins sheet 41, Minneapolis South NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



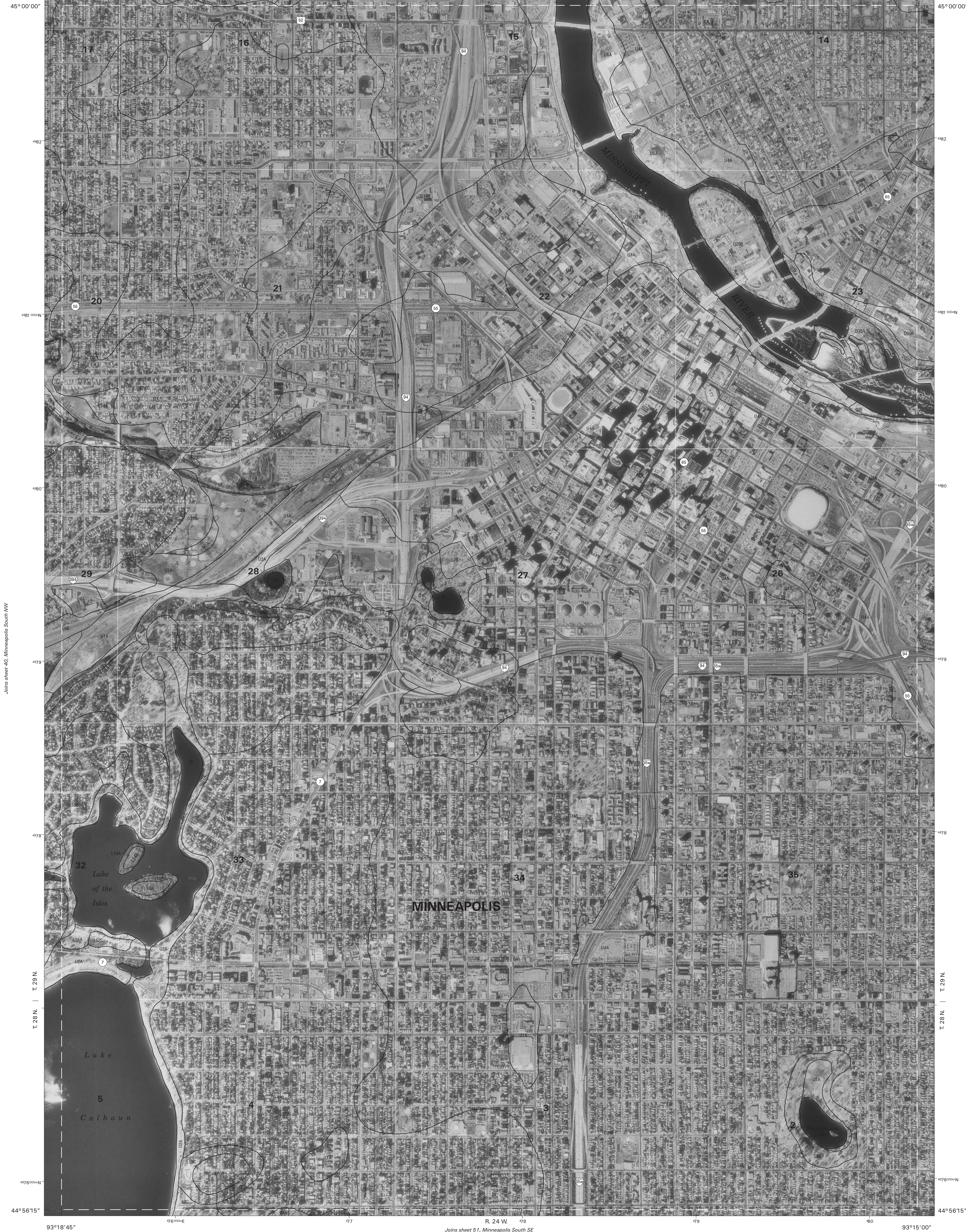
QUARTER QUADRANGLE  
LOCATION

MINNEAPOLIS SOUTH NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 40 OF 64



Joins sheet 31, Minneapolis North SE

R. 24 W.



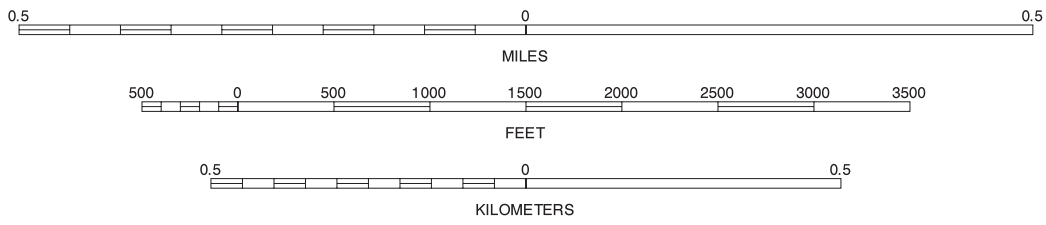
Joins sheet 40, Minneapolis South NW

Joins sheet 42, Saint Paul West NW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH

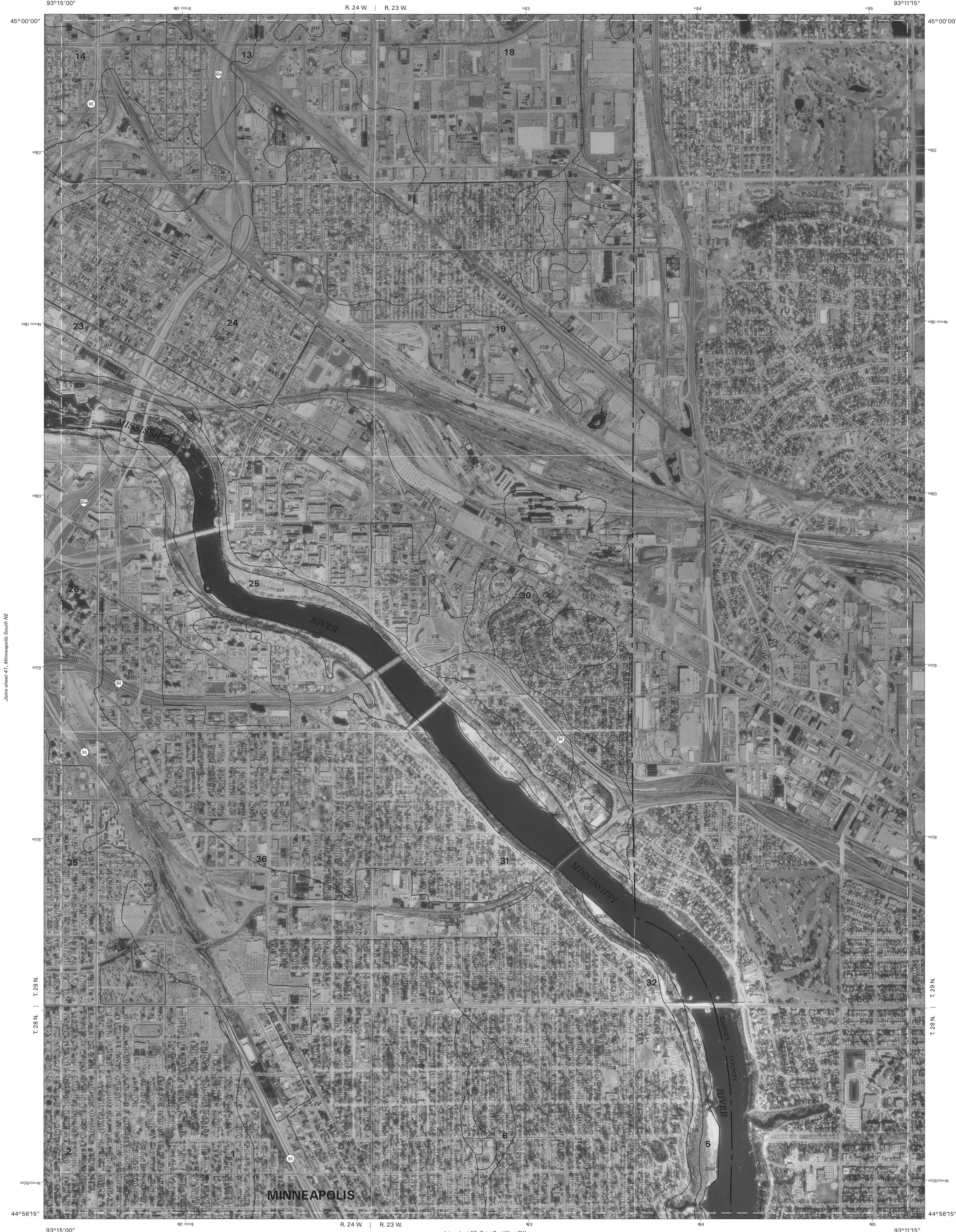


QUARTER QUADRANGLE  
LOCATION

MINNEAPOLIS SOUTH NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 41 OF 64



Joins sheet 32, New Brighton SW



Joins sheet 41, Minneapolis South NE

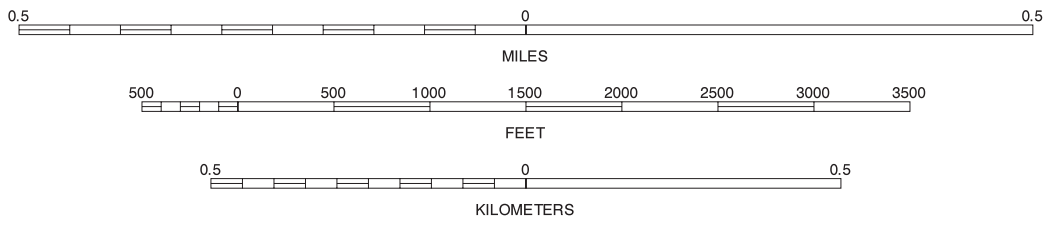
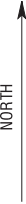
93°15'00" 81 0000E R. 24 W. | R. 23 W. 83 84 85 93°11'15" 45°00'00" 482 481 480 479 478 477 476 475 474 473 472 471 470 469 468 467 466 465 464 463 462 461 460 459 458 457 456 455 454 453 452 451 450 449 448 447 446 445 444 443 442 441 440 439 438 437 436 435 434 433 432 431 430 429 428 427 426 425 424 423 422 421 420 419 418 417 416 415 414 413 412 411 410 409 408 407 406 405 404 403 402 401 400 399 398 397 396 395 394 393 392 391 390 389 388 387 386 385 384 383 382 381 380 379 378 377 376 375 374 373 372 371 370 369 368 367 366 365 364 363 362 361 360 359 358 357 356 355 354 353 352 351 350 349 348 347 346 345 344 343 342 341 340 339 338 337 336 335 334 333 332 331 330 329 328 327 326 325 324 323 322 321 320 319 318 317 316 315 314 313 312 311 310 309 308 307 306 305 304 303 302 301 300 299 298 297 296 295 294 293 292 291 290 289 288 287 286 285 284 283 282 281 280 279 278 277 276 275 274 273 272 271 270 269 268 267 266 265 264 263 262 261 260 259 258 257 256 255 254 253 252 251 250 249 248 247 246 245 244 243 242 241 240 239 238 237 236 235 234 233 232 231 230 229 228 227 226 225 224 223 222 221 220 219 218 217 216 215 214 213 212 211 210 209 208 207 206 205 204 203 202 201 200 199 198 197 196 195 194 193 192 191 190 189 188 187 186 185 184 183 182 181 180 179 178 177 176 175 174 173 172 171 170 169 168 167 166 165 164 163 162 161 160 159 158 157 156 155 154 153 152 151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120 119 118 117 116 115 114 113 112 111 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

Joins sheet 52, Saint Paul West SW

SCALE 1:12000

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

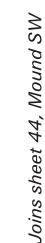


SAINT PAUL WEST NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 42 OF 64



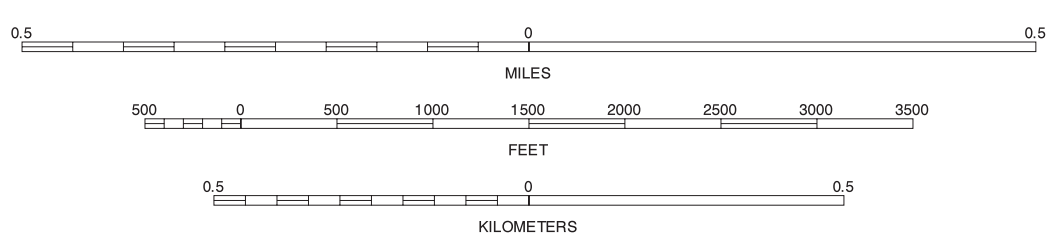
HENNEPIN COUNTY, MINNESOTA  
WATERTOWN SE QUADRANGLE  
SHEET NUMBER 43 OF 64

*Joins sheet 33, Watertown NE*



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

SCALE 1:12000

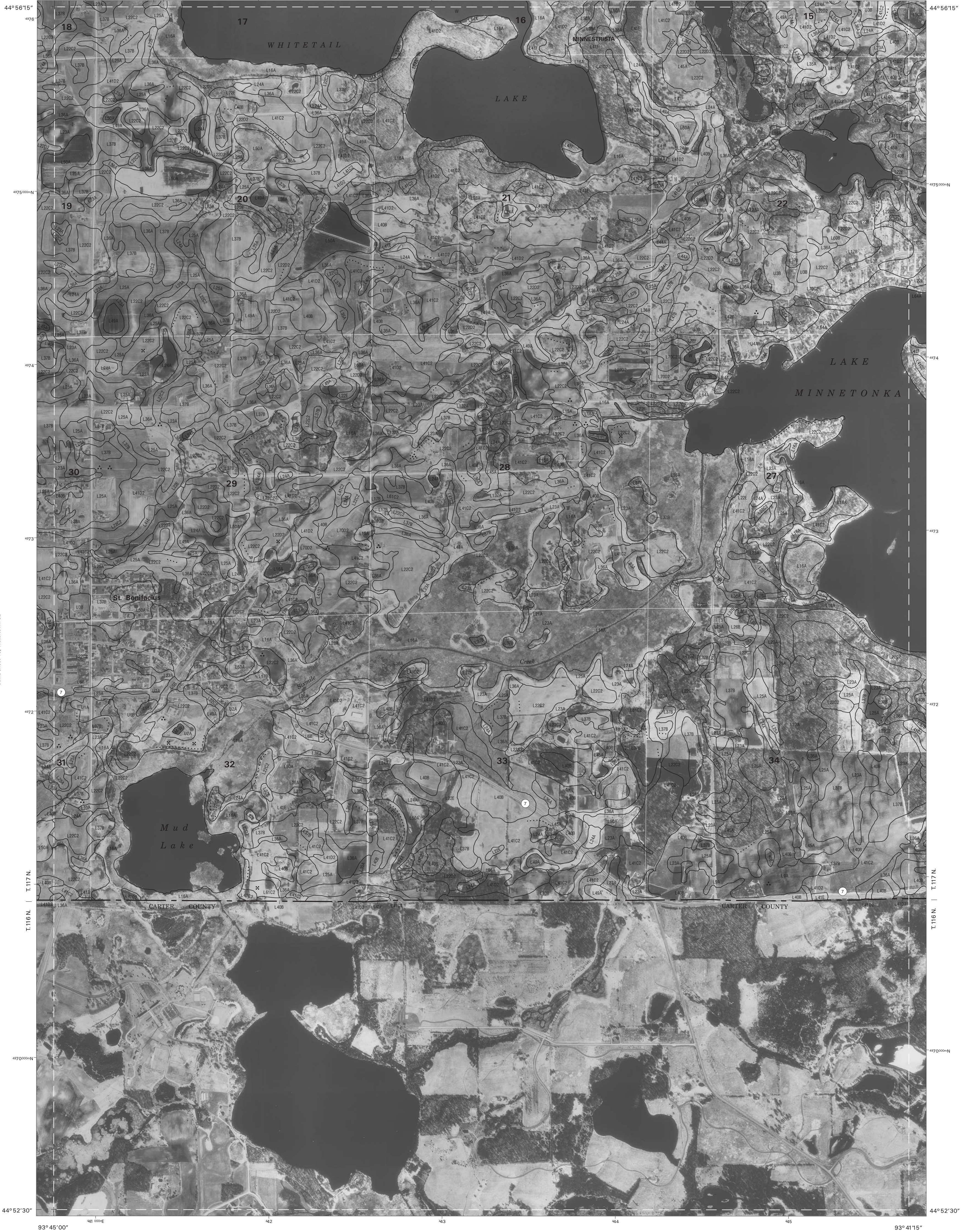


WATERTOWN SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 43 OF 64



Joins sheet 24, Mound NW

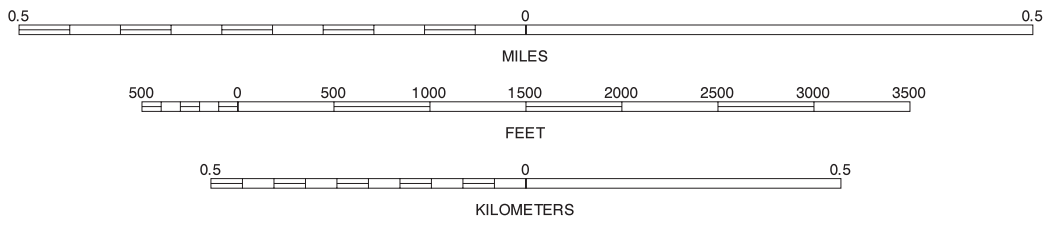
R. 24 W.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

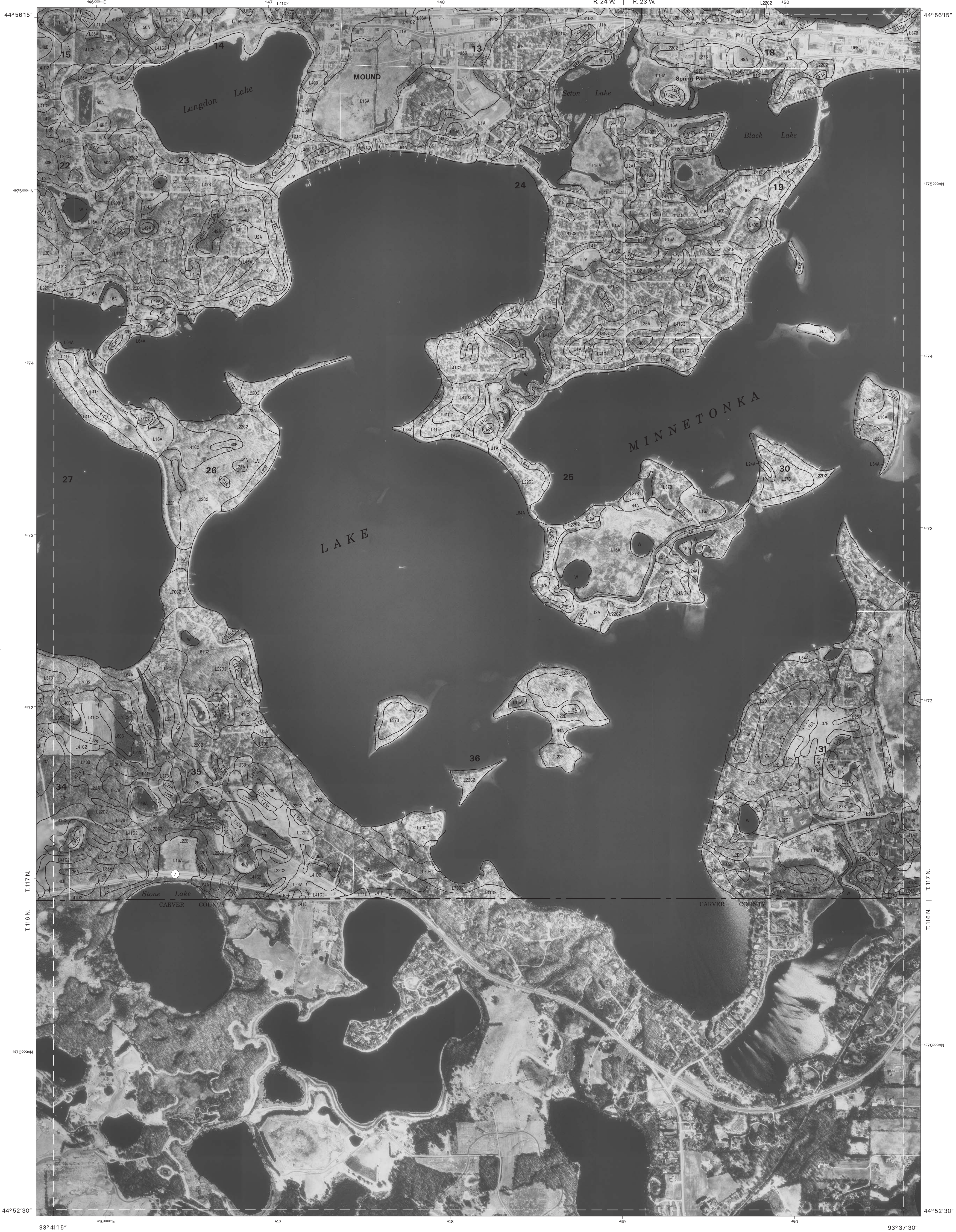
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



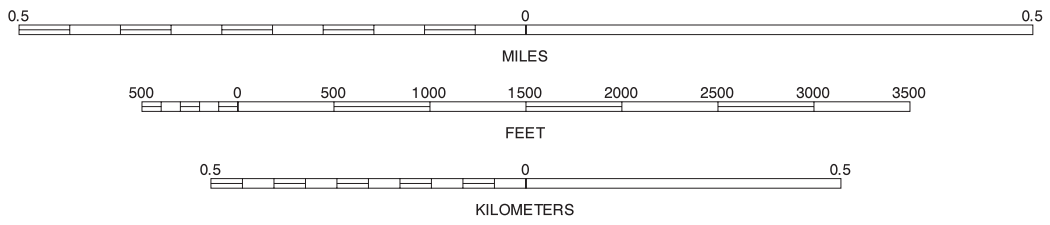
MOUND SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 44 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

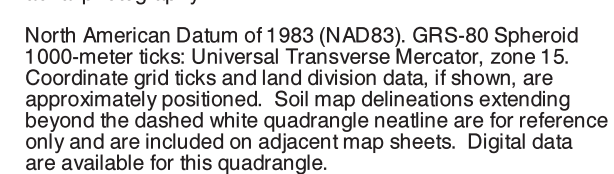


MOUND SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 45 OF 64

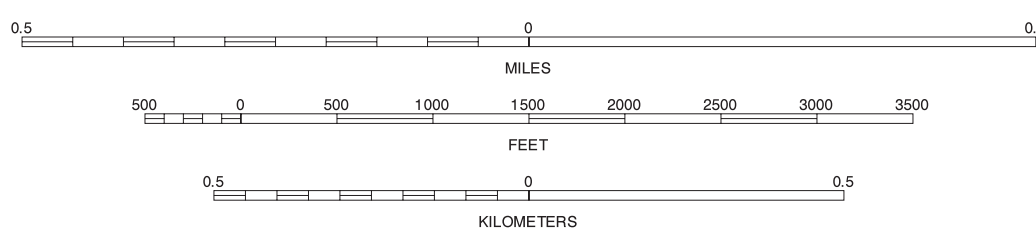


HENNEPIN COUNTY, MINNESOTA  
EXCELSIOR SW QUADRANGLE  
SHEET NUMBER 46 OF 64

Joins sheet 36, Excelsior NW



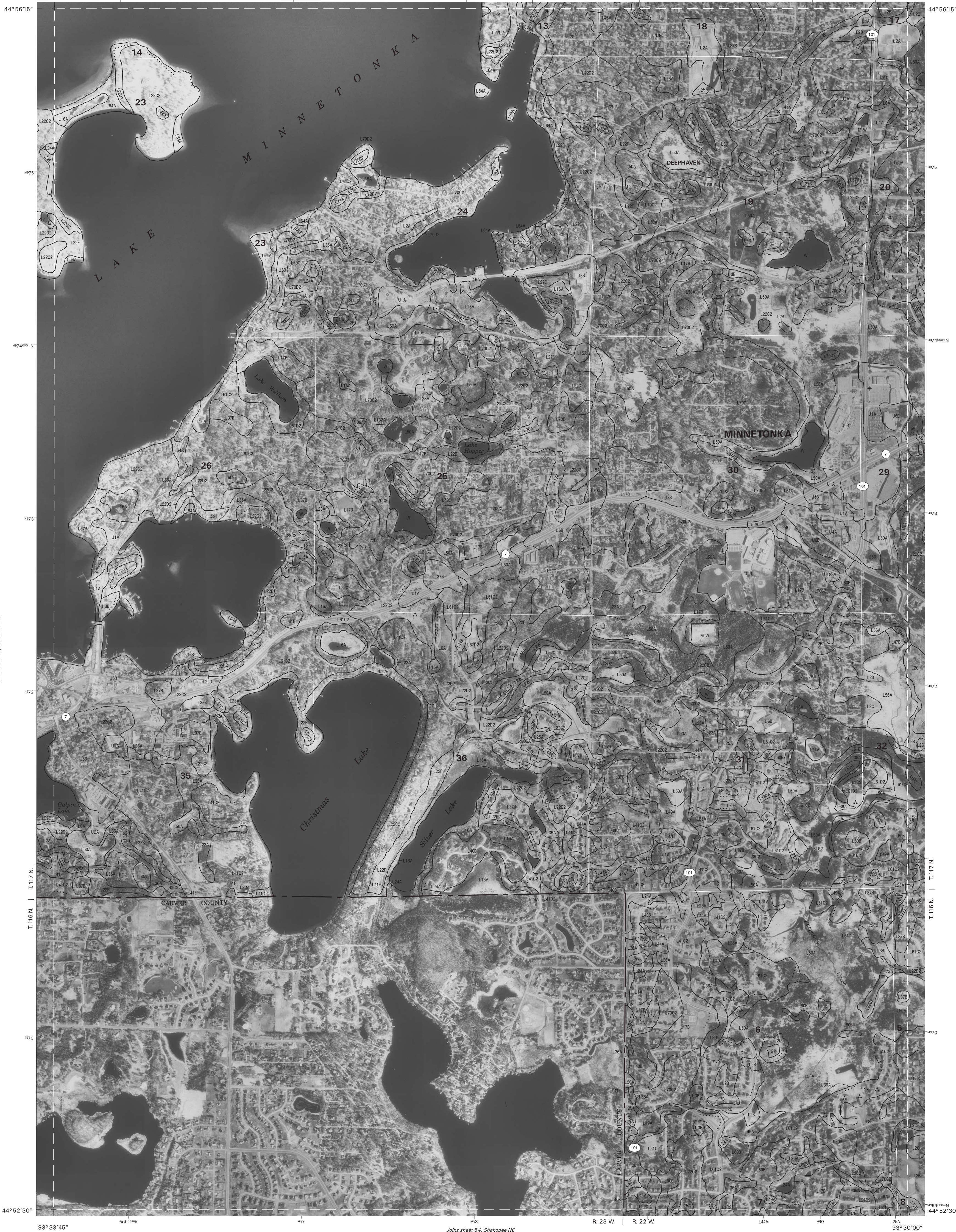
SCALE 1:12000

QUARTER QUADRANGLE  
LOCATION

EXCELSIOR SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 46 OF 64

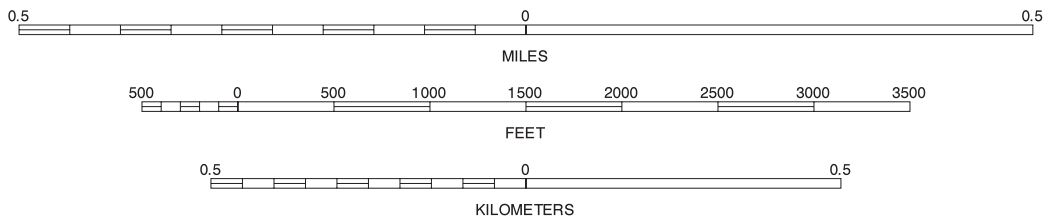


Joins sheet 37, Excelsior NE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography. North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH

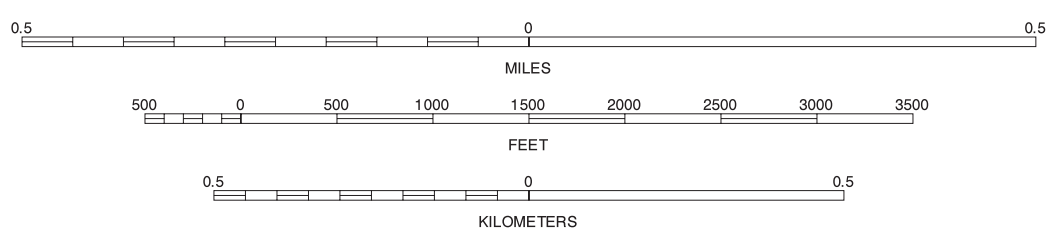
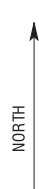
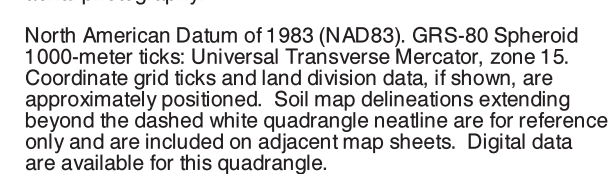


EXCELSIOR SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 47 OF 64



HENNEPIN COUNTY, MINNESOTA  
HOPKINS SW QUADRANGLE  
SHEET NUMBER 48 OF 64

*Joins sheet 38, Hopkins NW*

QUARTER QUADRANGLE  
LOCATION

HOPKINS SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 48 OF 64



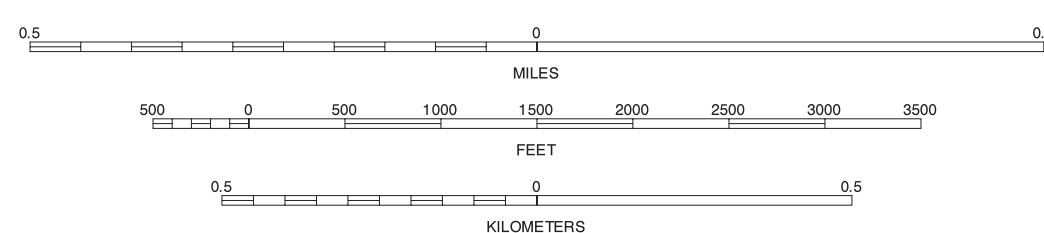
HENNEPIN COUNTY, MINNESOTA  
HOPKINS SE QUADRANGLE  
SHEET NUMBER 49 OF 64

R. 22 W. | R. 21 W.

SCALE 1:12000

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neckline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

HOPKINS SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 49 OF 64

QUARTER QUADRANGLE  
LOCATION



HENNEPIN COUNTY, MINNESOTA  
MINNEAPOLIS SOUTH SW QUADRANGLE  
SHEET NUMBER 50 OF 64  
93°18'45"

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

SCALE 1:12000

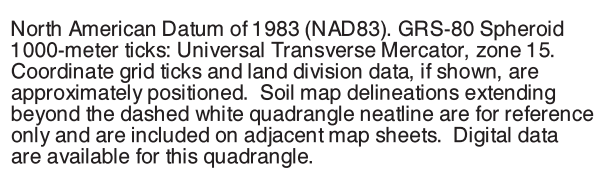


MINNEAPOLIS SOUTH SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 50 OF 64



HENNEPIN COUNTY, MINNESOTA  
MINNEAPOLIS SOUTH SE QUADRANGLE  
SHEET NUMBER 51 OF 64  
93°15'00"

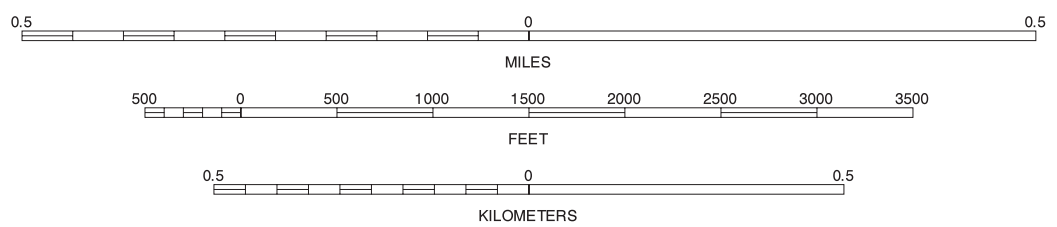
R. 24 W.



A horizontal number line with arrows at both ends. There are tick marks at -1, 0, and 1. The number 0 is written above the tick mark at the origin.

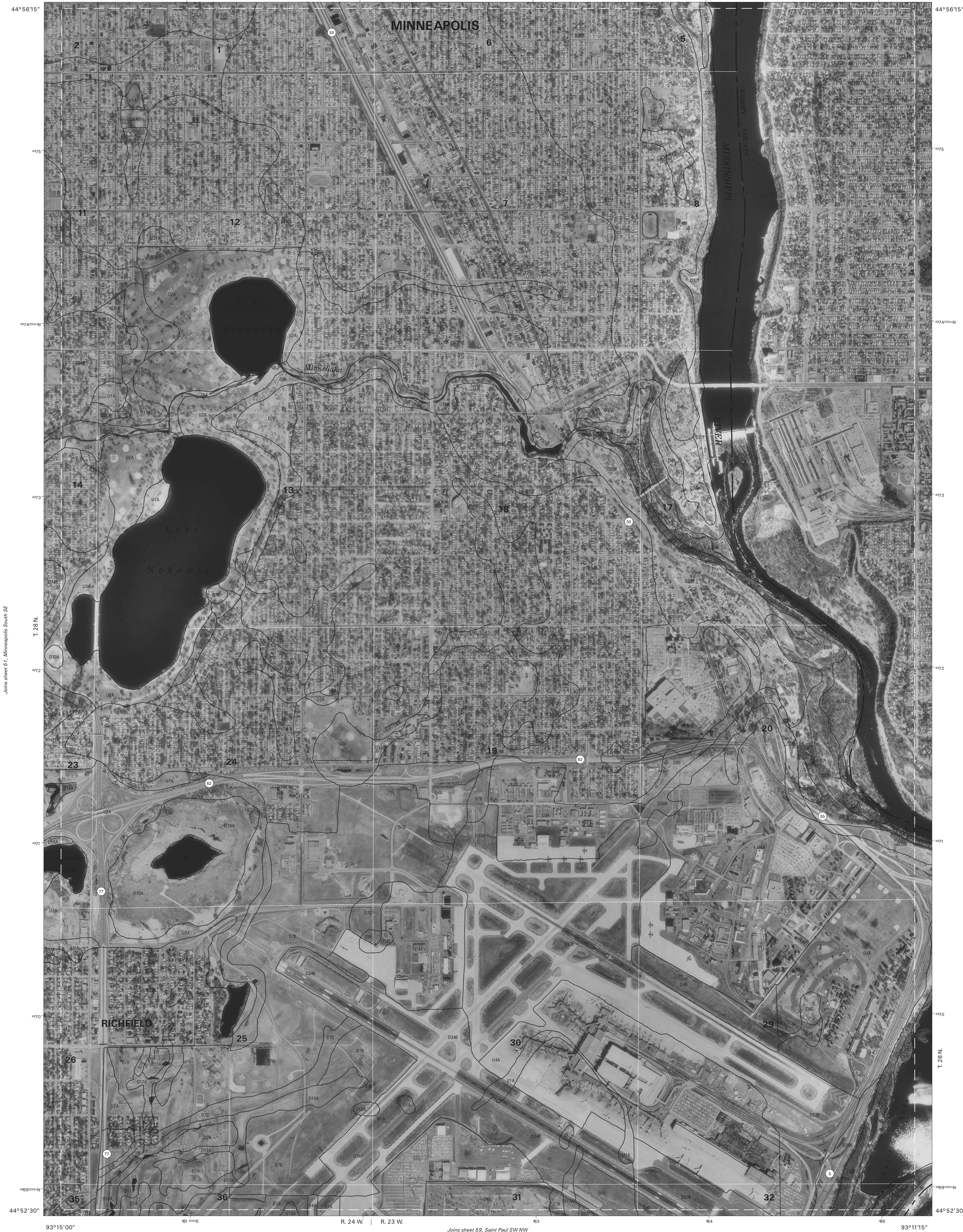
0 1500 3000  
FEET

KILOMETERS



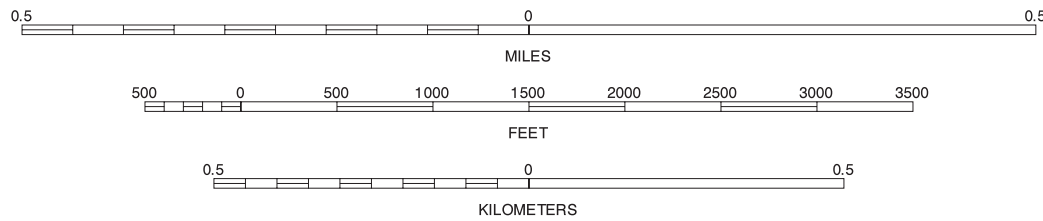
MINNEAPOLIS SOUTH SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 51 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

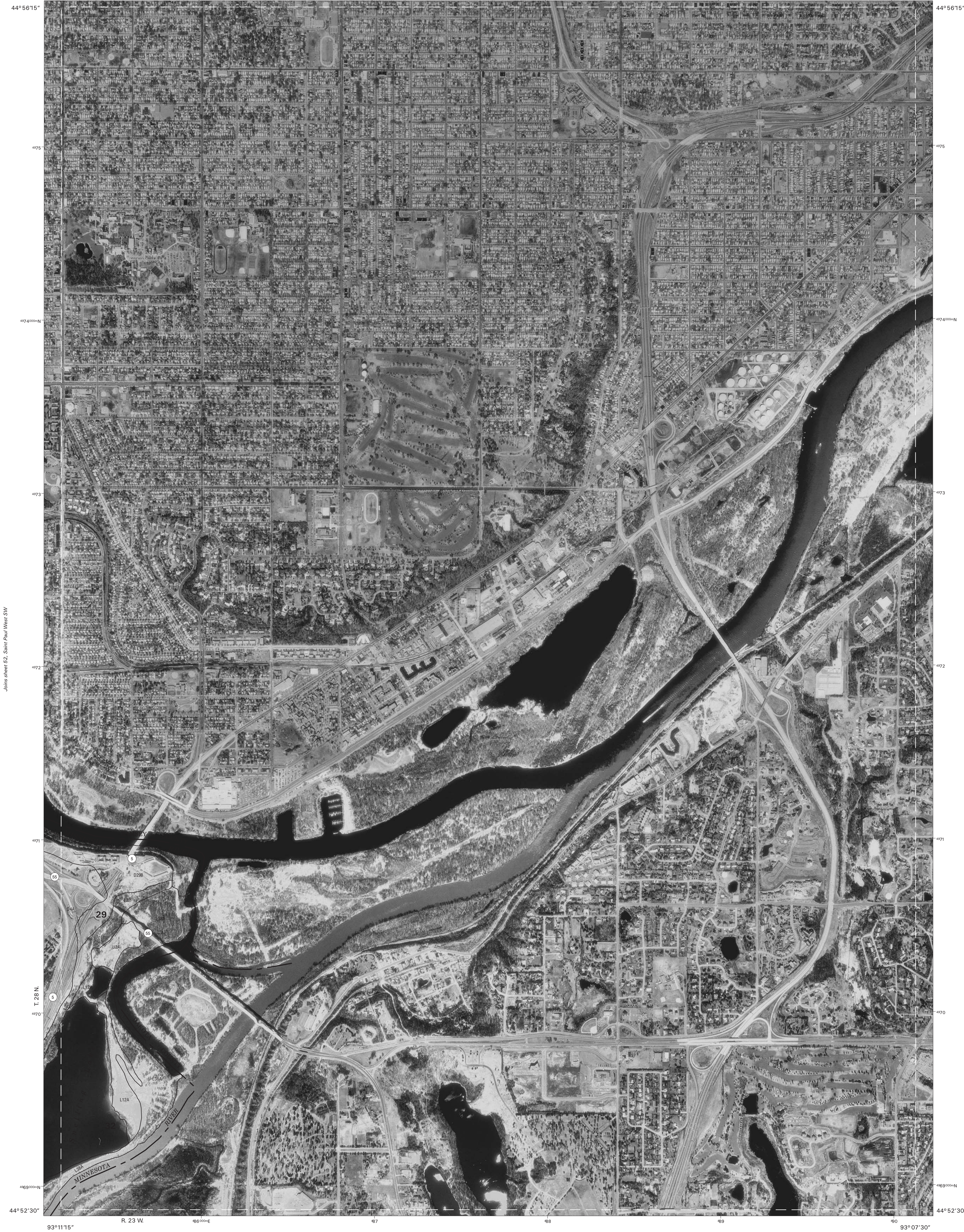
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE  
LOCATION

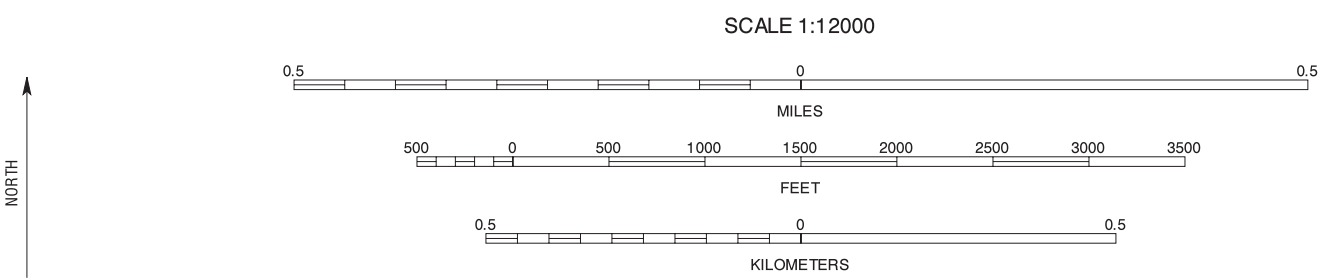
SAINT PAUL WEST SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 52 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



SAINT PAUL WEST SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 53 OF 64

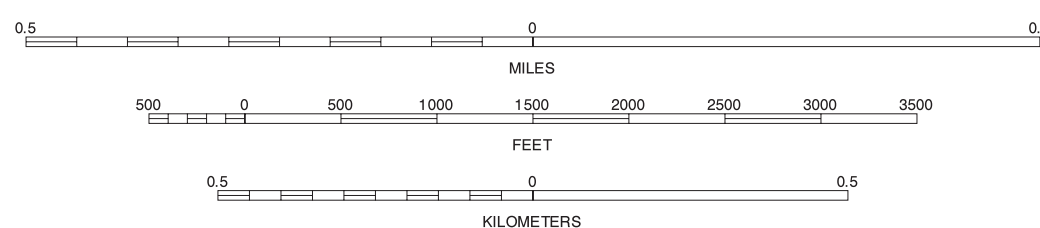


HENNEPIN COUNTY, MINNESOTA  
SHAKOPEE NE QUADRANGLE  
SHEET NUMBER 54 OF 64

Joins sheet 47 Excelsior.SF

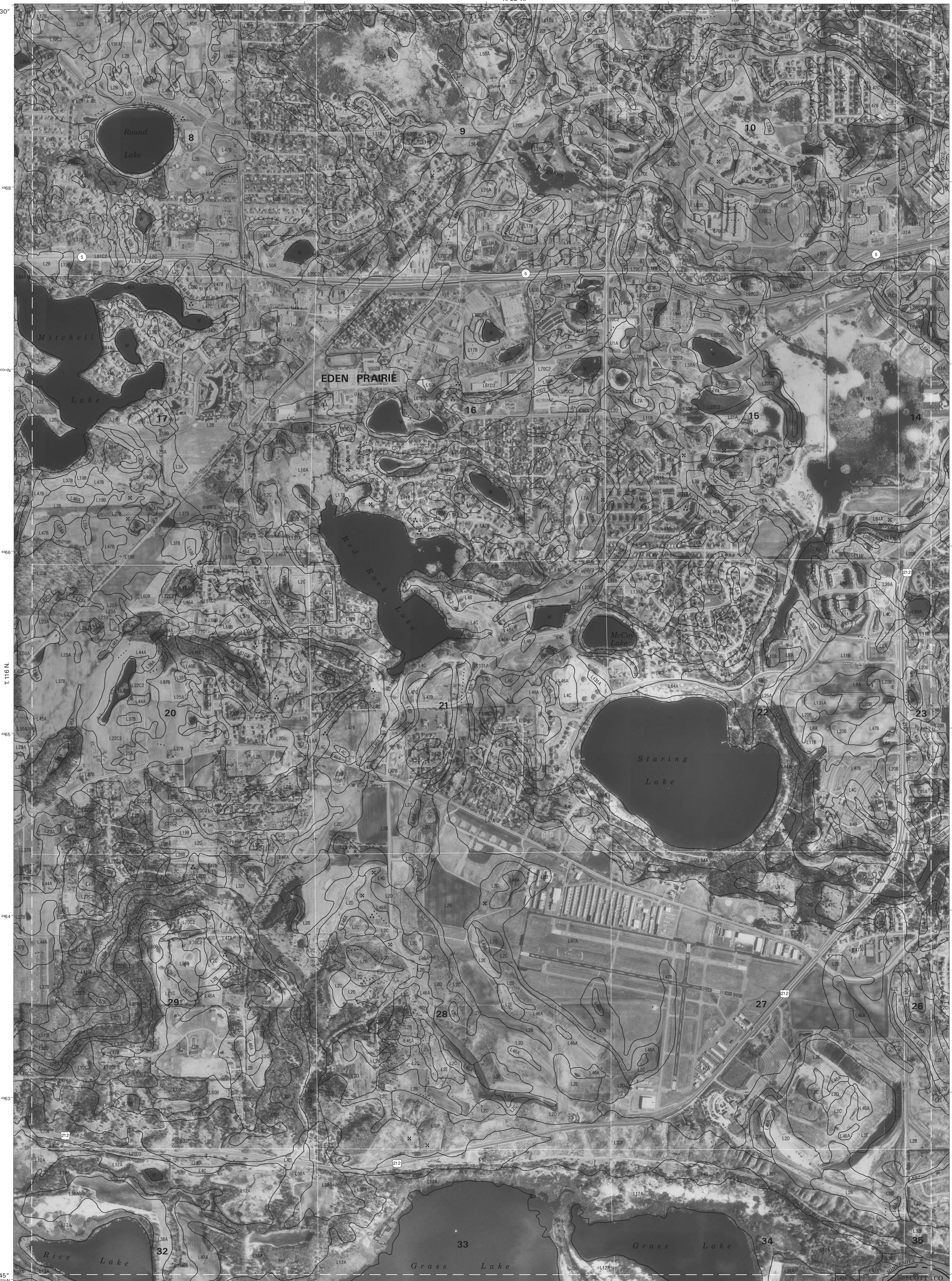
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.

QUARTER QUADRANGLE  
LOCATION

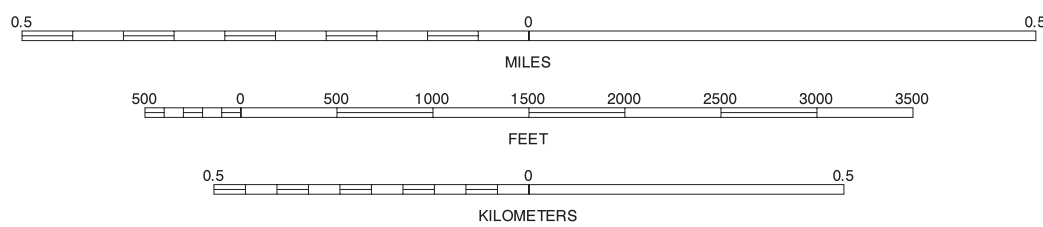
SHAKOPEE NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 54 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

EDEN PRAIRIE NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 55 OF 64

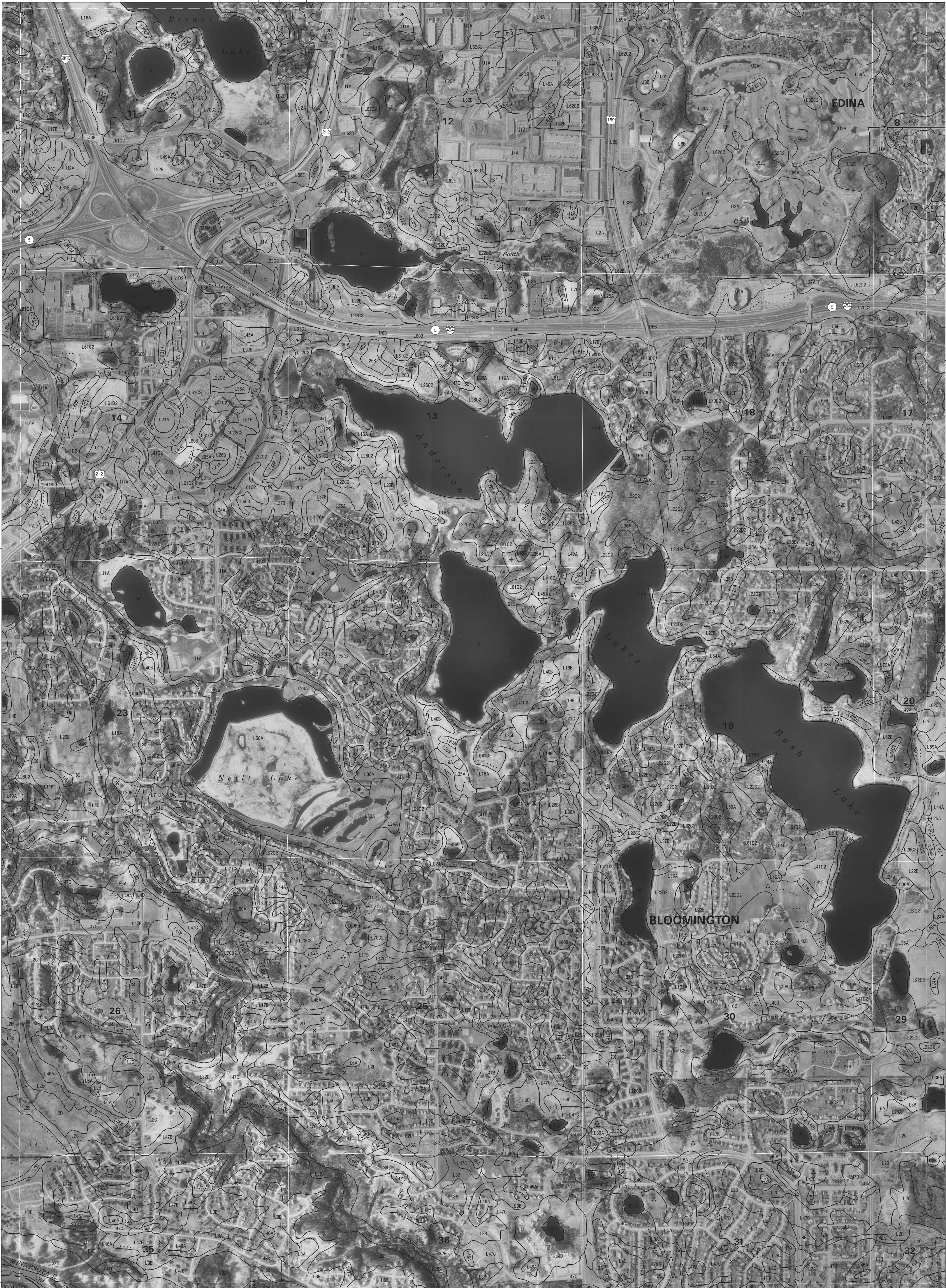


Joins sheet 49, Hopkins SE

R. 22 W. | R. 21 W.

44°52'30"

44°52'30"



Joins sheet 55, Eden Prairie NW

Joins sheet 57, Bloomington NW

44°48'45"

44°48'45"

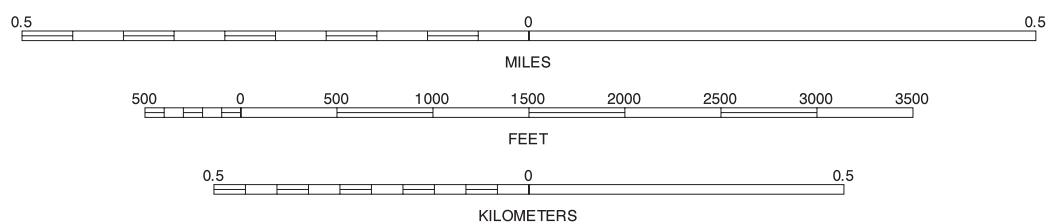
Joins sheet 62, Eden Prairie SE

SCALE 1:12000

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealtine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

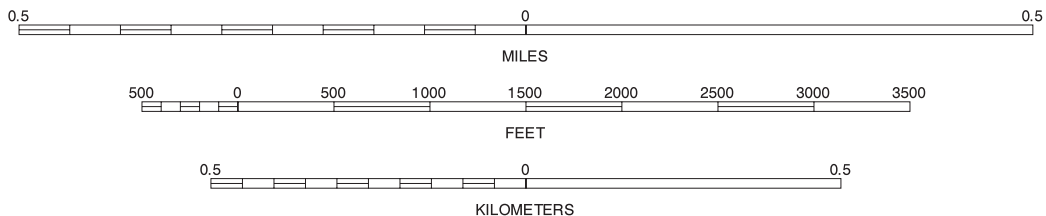
EDEN PRAIRIE NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 56 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



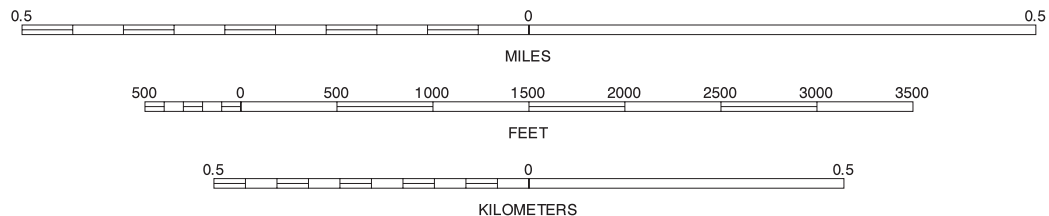
BLOOMINGTON NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 57 OF 64





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

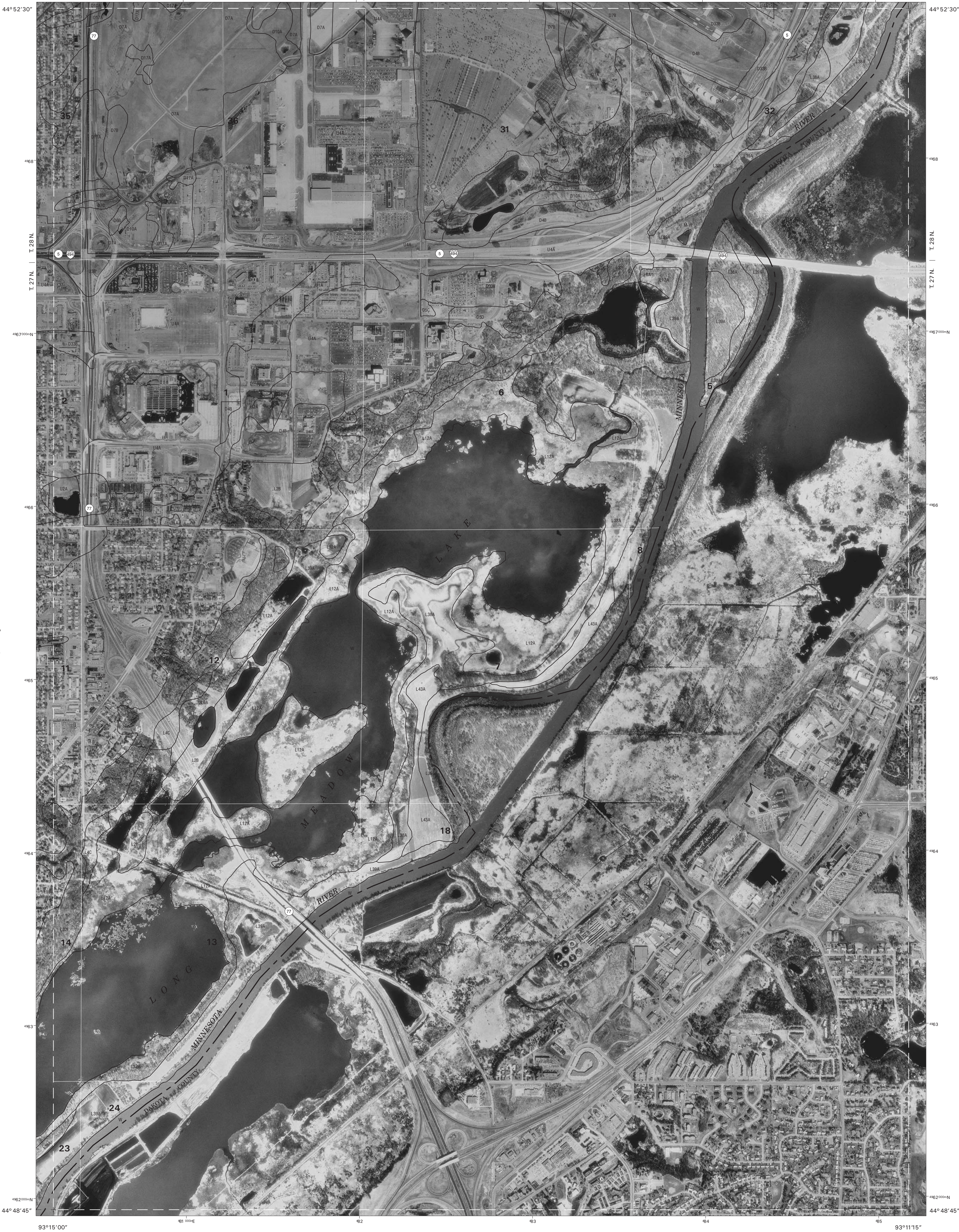
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

BLOOMINGTON NE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 58 OF 64



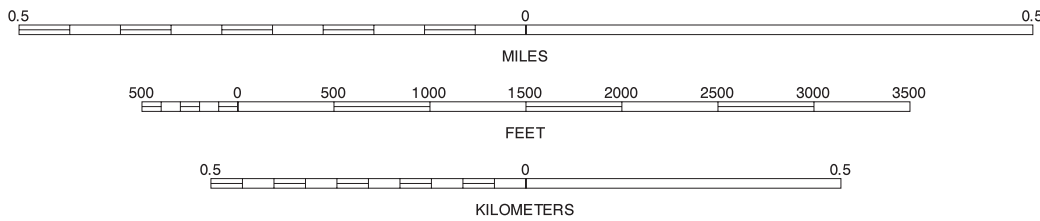


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH

SCALE 1:12000

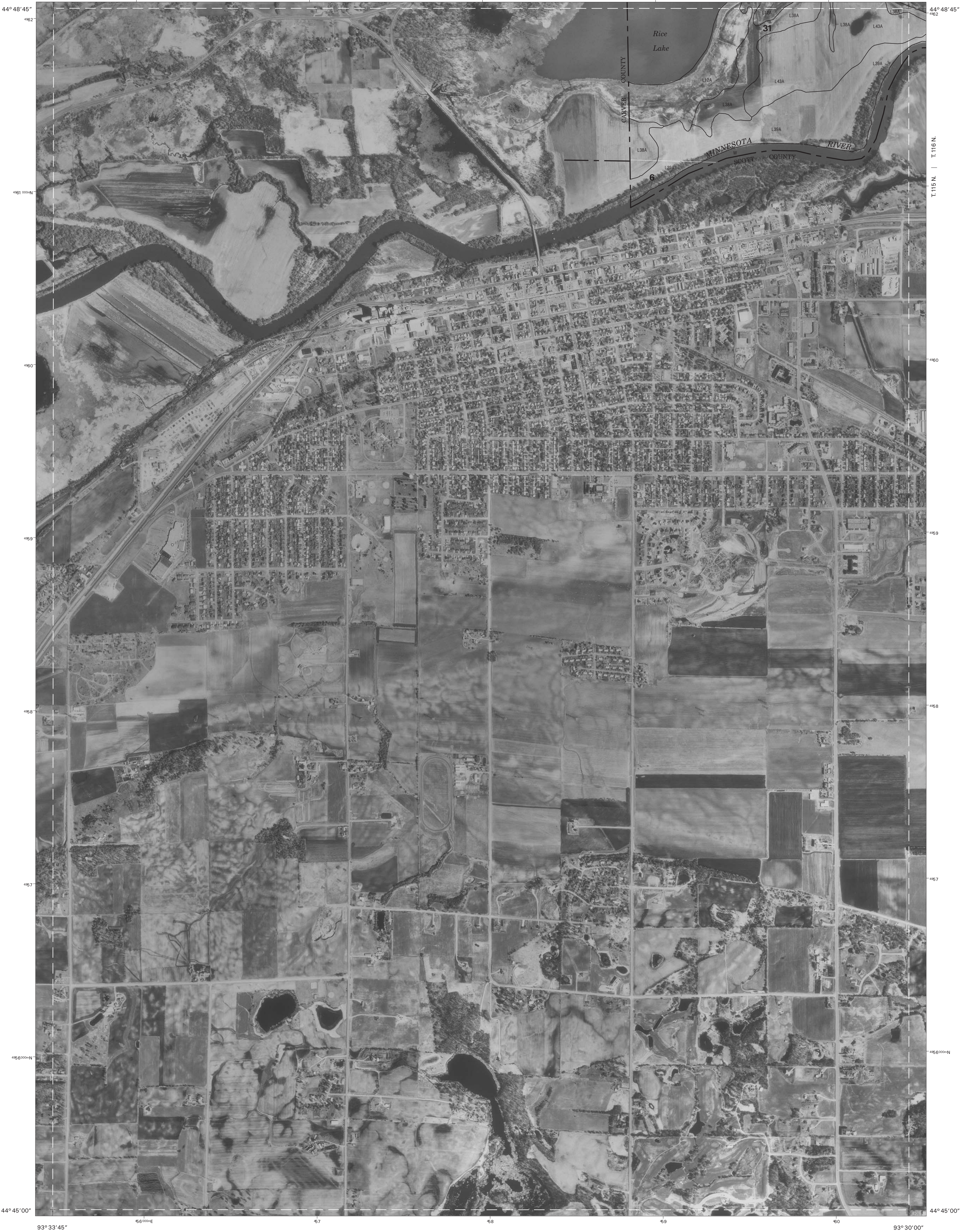


QUARTER QUADRANGLE  
LOCATION

SAINT PAUL SW NW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 59 OF 64



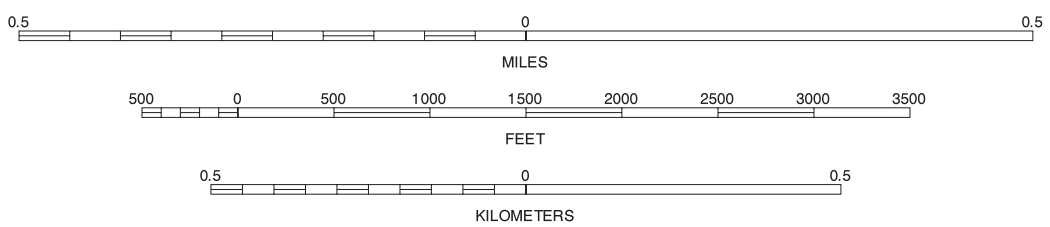
Joins sheet 54, Shakopee NE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SHAKOPEE SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 60 OF 64



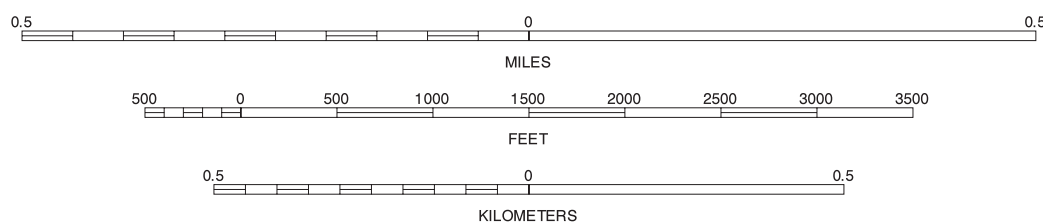


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH

SCALE 1:12000



QUARTER QUADRANGLE  
LOCATION

EDEN PRAIRIE SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 61 OF 64



Joins sheet 56, Eden Prairie NE

R. 22 W. | R. 21 W.

93° 22' 30"

44° 48' 45"

44° 48' 45"

T. 115 N. | T. 116 N.

T. 115 N. | T. 116 N.

460

460

459

459

458

458

457

457

456

456

44° 45' 00"

44° 45' 00"



93° 26' 15"

460000E

467

468

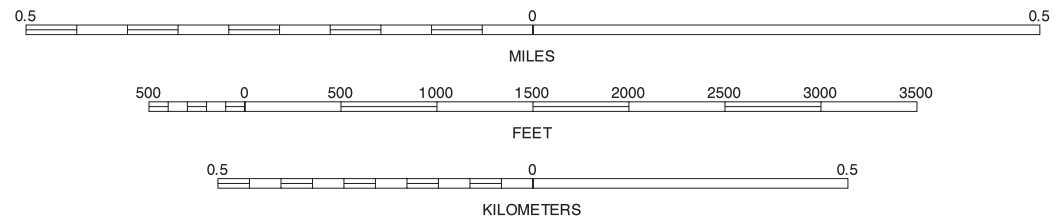
469

470

93° 22' 30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



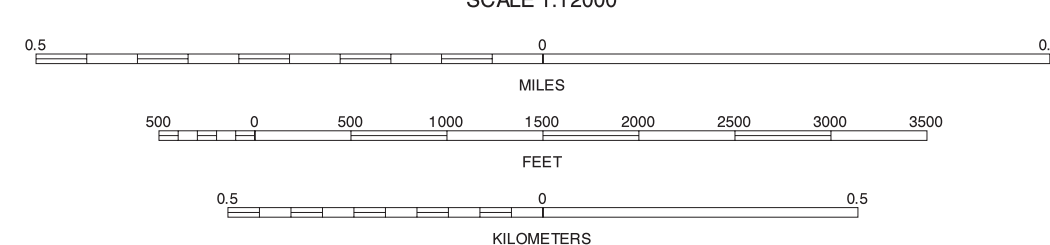
QUARTER QUADRANGLE LOCATION

EDEN PRAIRIE SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 62 OF 64



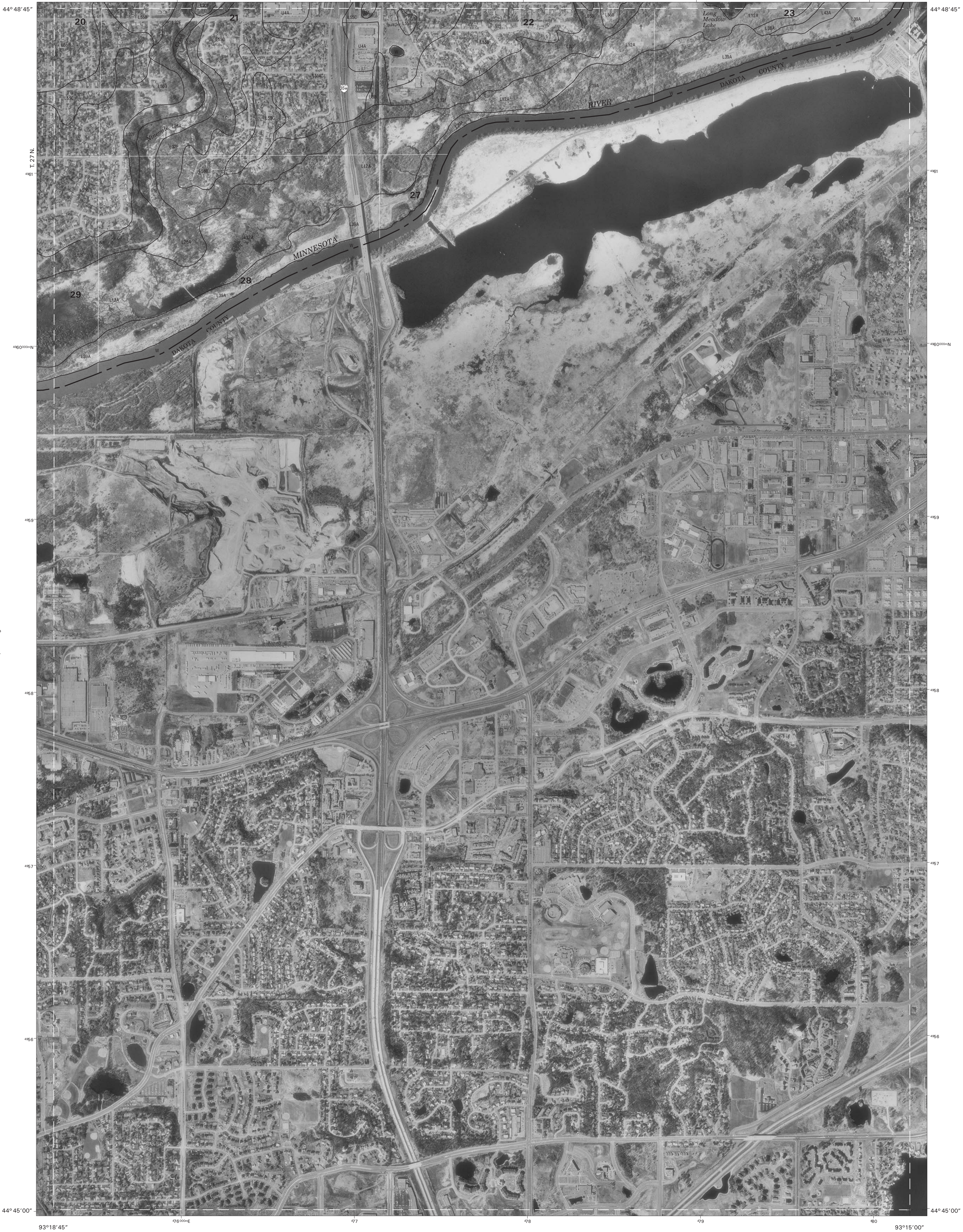
HENNEPIN COUNTY, MINNESOTA  
BLOOMINGTON SW QUADRANGLE  
SHEET NUMBER 63 OF 64  
93°18'45"

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data  
are available for this quadrangle.



BLOOMINGTON SW, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 63 OF 64

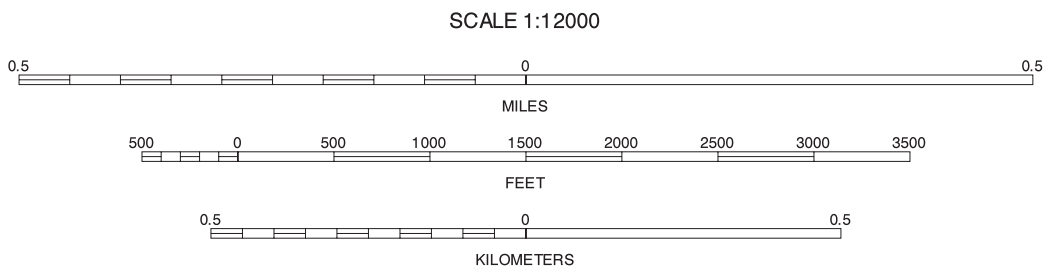




This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991-1994 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE  
LOCATION

BLOOMINGTON SE, MINNESOTA  
3.75 MINUTE SERIES  
SHEET NUMBER 64 OF 64